

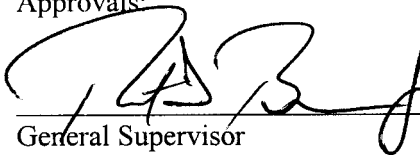
NRC JPM S-1
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Initiate Liquid Poison Injection, RWCU Fails
To Isolate (Alternate Path)

Revision: NRC 2008

Task Number: N1-211000-01006

Approvals:

 / 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A - Exam Security /
General Supervisor Date
Operations (Designee)

N/A - Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform Simulate

Evaluation Location: Plant X Simulator

Expected Completion Time: 15 minutes Time Critical Task: No Alternate Path Task: Yes

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____ Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize Simulator to IC 181
2. Verify malfunctions RD33B and RD33D are inserted at position 36, and RP03 is inserted to establish failure to scram
3. Verify malfunctions CU12 and CU13 are inserted to establish RWCU isolation failure
4. Verify mode switch is in SHUTDOWN
5. Verify RRP's are tripped
4. Allow conditions to stabilize

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**.
2. During Evaluated JPM:
 - Self verification shall be demonstrated.
3. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123, 211000, A1.08, RO 3.7, SRO 3.8
2. N1-EOP-HC, Attachment 9

Tools and Equipment:

None

Task Standard: Liquid Poison pump 11 injecting into the Reactor Vessel and Reactor Water Cleanup isolated.

Initial Conditions:

1. The plant was operating at 100% power.
2. A failure to scram has occurred.
3. Instructor to ask operator for any questions.

Initiating Cues:

“(Operator’s name), inject Liquid Poison into the Reactor Vessel with Liquid Poison pump 11 in accordance with N1-EOP-HC, Attachment 9.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue. <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-EOP-HC, Attachment 9 obtained	Sat/Unsat
3. Place Liquid Poison System keylock selector switch to SYS 11	Keylock selector switch is rotated CW to SYS 11	Pass/Fail
4. Confirm: <ul style="list-style-type: none">• Both explosive valves fire	Squib valves 11 and 12 continuity lights verified extinguished	Sat/Unsat
<ul style="list-style-type: none">• Liquid Poison pump 11 Starts	Liquid Poison pump 11 red light ON, green light OFF, amps and pressure rise	Sat/Unsat
<ul style="list-style-type: none">• RWCU System isolates <p>Note: RWCU will fail to isolate</p>	Diagnoses failure of RWCU to isolate: RWCU system isolation valves remain open with green lights OFF, red lights ON, RWCU pump in service	Pass/Fail

Performance Steps	Standard	Grade
5. Notify CRS that the RWCU system failed to isolate Role Play: Acknowledge RWCU System failed to isolate	Proper communication used (GAP-OPS-01)	Sat/Unsat
6. IF RWCU does NOT automatically isolate THEN manually isolate the RWCU system IAW N1-OP-3 Note: Refers to N1-OP-3, Section H.11, Rapid System Isolation	Refers to N1-OP-3, Section H.11	Sat/Unsat
7. Provide close signal to both valves below at H panel <ul style="list-style-type: none"> • Close 33-02R • Close 33-04R 	Closes 33-02R & 33-04R by rotating individual control switches CCW	Pass/Fail
8. Secure all operating cleanup pumps	Secures RWCU pump 12 by rotating control switches CCW to STOP	Sat/Unsat
9. Open ONE of the following valves <ul style="list-style-type: none"> • 33-10, Cleanup to Waste Disposal BV • 33-11, Cleanup to condenser BV Role Play: When asked, state that Rapid Depressurization is NOT required and that RWCU system is to remain pressurized	Opens ONE of the following valves using common control switch <ul style="list-style-type: none"> • 33-10, Cleanup to Waste Disposal BV • 33-11, Cleanup to condenser BV 	Sat/Unsat
10. If high pressure system is to remain pressurized, THEN close 33-41, AO Blocking Valve.	Closes 33-41, AO Blocking Valve by rotating control switch CCW	Sat/Unsat
11. Provide close signal at H Panel to 33-01R, CU Return Isolation Valve 1 (inside)	Provides close signal at H Panel to 33-01R, CU Return Isolation Valve 1 (inside), by rotating control switch CCW	Pass/Fail
12. Adjust inservice PCV AND 33-165, Cleanup to Cond & Waste Flow, as required to maintain Cleanup system pressure less than 110 psig AND minimize reject flow	Adjusts inservice PCV AND 33-165, Cleanup to Cond & Waste Flow, as required to maintain Cleanup system pressure less than 110 psig AND minimize reject flow	Sat/Unsat

Performance Steps	Standard	Grade
13. Verify closed the following valves	Verifies closed the following valves (green light ON, red light OFF)	Sat/Unsat
• IV-33-02R	• IV-33-02R	
• IV-33-04R	• IV-33-04R	
• IV-33-01R	• IV-33-01R	
Note: Once this step is performed, the JPM is complete		

Terminating Cue: Liquid Poison pump 11 injecting into the Reactor Vessel and Reactor Water Cleanup isolated.

RECORD STOP TIME _____

Initial Conditions:

1. The plant was operating at 100% power.
2. A failure to scram has occurred.

Initiating Cues:

“(Operator’s name), inject Liquid Poison into the Reactor Vessel with Liquid Poison pump 11 in accordance with N1-EOP¹-HC, Attachment 9.”

ATTACHMENT 9

Sheet 1 of 1

Initiate Liquid Poison

1.0	Step Deleted.	
2.0	Place the key lock selector switch to SYS 11 OR SYS 12	()
3.0	Confirm the following:	
	• Both explosive valves fire	()
	• The selected pump starts	()
	• Reactor Water Cleanup System isolates	()
4.0	IF the selected Liquid Poison pump fails to start THEN start the standby pump by placing the keylock switch to the position <u>NOT</u> selected in step 2.0	()
5.0	IF Reactor Water Cleanup System does <u>NOT</u> automatically isolate THEN manually isolate the Reactor Water Cleanup System in accordance with N1-OP-3	()

4th
step
9/5/08

H. OFF-NORMAL PROCEDURES (Cont)

11.0 Rapid System Isolation (SOP)

- NOTES:**
1. Performance of this section will result in the loss of the in-service filter bed.
 2. Pressure relief valve 33-145 may lift to provide thermal overpressure protection for the regenerative heat exchanger shell side.
 3. The sequence for rapidly securing the RWCU system is established to isolate the system while minimizing probability of causing an automatic isolation signal. The pumps are secured and reject established while the isolations valves are going closed.

11.1 Provide close signal to both valves below at H Panel

- a. 33-02R, CU SUPPLY ISOLATION VALVE 11 (INSIDE) ()
- b. 33-04R, CU SUPPLY ISOLATION VALVE 12 (OUTSIDE) ()

11.2 Secure all operating cleanup pumps ()

() Auxiliary CU Pump 11

() Cleanup Pump 11

() Cleanup Pump 12

11.3 Open ONE of the following valves ()

() 33-10, CLEANUP TO WASTE DISPOSAL BV

() 33-11, CLEANUP TO CONDENSER BV

NOTE: IF rapid depressurization is required while an isolation signal is present, then the control switch for 33-41 may be held in the open position (as directed by the SSS) to facilitate depressurization.

11.4 IF rapid depressurization is required,
THEN perform the following:

N/A, rapid depressurization NOT required ()

11.4.1 Verify Open 33-41, AO BLOCKING VALVE ()

11.4.2 Manually control in-service PCV AND 33-165 to depressurize
Cleanup System ()

H. OFF-NORMAL PROCEDURES (Cont)

- 11.5 IF high pressure system is to remain pressurized,
THEN Close 33-41, AO BLOCKING VALVE ()
- N/A, Cleanup system is to be depressurized ()
- 11.6 Provide close signal at H Panel to 33-01R, CU RETURN ISOLATION
VALVE 1 (INSIDE) ()
- 11.7 Adjust inservice PCV AND 33-165, CLEANUP TO COND & WASTE FLOW,
as required to maintain Cleanup System pressure less than 110 psig
AND minimize reject flow ()
- 11.8 Verify closed the following valves:
- IV-33-02R ()
 - IV-33-04R ()
 - IV-33-01R ()
- 11.9 When time permits, continue with Section H.1.0 for system isolation recovery ()

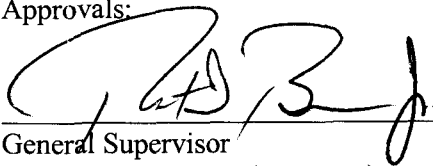
NRC JPM S-2
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Transfer Torus Water to the Waste Collector Tank Using
Containment Spray Loop 111

Revision: NRC 2008

Task Number: N1-226001-01015

Approvals:

 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security /
General Supervisor Date
Operations (Designee)

N/A – Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform _____ Simulate

Evaluation Location: _____ Plant X Simulator

Expected Completion Time: 15 Minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize Simulator to IC 182
2. Verify torus water level raised to ~11.3' per N1-EOP-1 Attachment 18

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
 - Self verification shall be demonstrated.
3. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. N1-EOP-1, Attachment 15
2. NUREG 1123 295029 EA 1.03 RO 2.9 SRO 3.0

Tools and Equipment:

None

Task Standard: Torus water level is being lowered via the Containment Spray System.

Initial Conditions:

1. Torus water level is 11.3 feet and rising slowly.
2. N1-EOP-4 has been entered.
3. Containment Spray pumps are in "Pull to Lock".

Initiating Cues:

"(Operator's name), lower torus level by discharging water to the Waste Collector Tank using Containment Spray Loop 111 in accordance with N1-EOP-1, Attachment 15."

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-EOP-1, Attachment 15 obtained	Sat/Unsat
3. Notify Radwaste of intent to pump down Torus to Waste Collector Tank	Proper communications used (GAP-OPS-01)	Sat/Unsat
<u>Role Play:</u> Acknowledge report		
4. Close valve 80-45, Cont Spray Bypass BV 122	Valve 80-45 is closed by turning control switch CCW and then observing green light on, red light off	Pass/Fail
5. Open valve 80-118, Cont Spray Test to Torus FCV <u>Note:</u> 80-118 is a throttlable valve, and must be held in the open position until fully open	Valve 80-118 is opened by turning control switch CW to open and verifying green light off, red light on	Pass/Fail
6. Verify closed valve 80-16, Cont Spray Discharge IV 111	Valve 80-16, Cont Spray Discharge IV 111, is closed by turning control switch CCW and then observing green light on, red light off	Pass/Fail
7. Verify open 80-40, Cont Spray Bypass BV 111	Verifies valve 80-40 is open by observing red light on, green light off	Sat/Unsat

Performance Steps	Standard	Grade
8. Start Containment Spray Raw Water Pump 111	Starts Containment Spray Raw Water Pump 111 by turning control switch CW to the start position and verifying one or more of the following: <ul style="list-style-type: none"> • Green light off, red light on • Pump amps increase • Flow increases 	Pass/Fail
9. Start Containment Spray Pump 111	Starts Containment Spray Pump 111 by turning control switch CW to the start position and verifying one or more of the following: <ul style="list-style-type: none"> • Green light off, red light on • Pump amps increase • Flow increases • System pressure rises 	Pass/Fail
10. Open valve 80-115, Cont Spray to Radwaste IV 12	Valve 80-115 is opened by turning control switch CW and then observing green light off, red light on	Pass/Fail
11. Open valve 80-114, Cont Spray to Radwaste IV 11	Valve 80-114 is opened by turning control switch CW and then observing green light off, red light on	Pass/Fail
12. Throttle valve 80-118, Cont Spray Test to Torus FCV as required to control flow to Waste Collector Tank	Valve 80-118 is throttled closed by turning control switch CCW and then verifying green light on	Sat/Unsat
<u>Role Play:</u> If requested, inform that Radwaste has indication of sufficient flow		
13. Monitor 58-05A and 58-06A TORUS H ₂ O LEVEL indicators for level response	TORUS H ₂ O LEVEL indicators 58-05A and 58-06A monitored for level response	Sat/Unsat
14. Inform CRS that flow to the Waste Collector Tank has been established using Containment Spray Loop 111	Proper communications used (GAP-OPS-01)	Sat/Unsat

Role Play: Acknowledge report

Terminating Cue: Torus water level is being lowered via Containment Spray Loop 111.

RECORD STOP TIME _____

Initial Conditions:

1. Torus water level is 11.3 feet and rising slowly.
2. N1-EOP-4 has been entered.
3. Containment Spray pumps are in "Pull to Lock".

Initiating Cues:

"(Operator's name), lower torus level by discharging water to the Waste Collector Tank using Containment Spray Loop 111 in accordance with N1-EOP-1, Attachment 15."

ATTACHMENT 15
Torus Water to Waste Collector

Page 1 of 3

1.0 PURPOSE

Provide instructions to control Torus water level through the Cont Spray System.

2.0 TOOLS AND MATERIALS

None

3.0 PROCEDURE

NOTE: Any one of the four Containment Spray Pumps and its associated Raw Water Pump may be used. Identification of the applicable valves and pumps for each loop is provided.

3.1 Notify Radwaste of intent to pump down Torus to Waste Collector Tank ()

CAUTIONS

1. Incorrect valve lineup could result in spraying the Drywell.
2. Operation of Loop Bypass to Torus valve may affect ability to maintain a water seal.

3.2 Close CONT SPRAY BYPASS BVs for selected loop:

(C2)

- | | <u>Loop</u> | <u>Valve</u> |
|---|-------------|--|
| • | 111 | 80-45 CONT SPRAY BYPASS BV 122 () |
| • | 112 | 80-40 CONT SPRAY BYPASS BV 111 ()
80-45 CONT SPRAY BYPASS BV 122 () |
| • | 121 | 80-40 CONT SPRAY BYPASS BV 111 ()
80-45 CONT SPRAY BYPASS BV 122 () |
| • | 122 | 80-40 CONT SPRAY BYPASS BV 111 () |

3.3 Open 80-118, CONT SPRAY TEST TO TORUS FCV ()

ATTACHMENT 15
Torus Water to Waste Collector

Page 2 of 3

3.4 Verify closed Cont Spray Discharge IV using Keylock Switch for selected loop:

	<u>Loop</u>	<u>Valve</u>	
•	111	80-16, CONT SPRAY DISCHARGE IV 111.....	(__)
•	112	80-36, CONT SPRAY DISCHARGE IV 112.....	(__)
•	121	80-15, CONT SPRAY DISCHARGE IV 121.....	(__)
•	122	80-35, CONT SPRAY DISCHARGE IV 122.....	(__)

3.5 Verify open CONT SPRAY BYPASS BV for selected loop:

	<u>Loop</u>	<u>BV</u>	
•	111	80-40, CONT SPRAY EYPASS BV 111	(__)
•	112	80-44, CONT SPRAY EYPASS BV 112	(__)
•	121	80-41, CONT SPRAY EYPASS BV 121	(__)
•	122	80-45, CONT SPRAY BYPASS BV 122	(__)

WARNING

The Raw Water Pump should be started prior to starting the Cont Spray Pump to prevent the possible release of contamination to the environment.

- 3.6 Start CONTAINMENT SPRAY RAW WATER PUMP in selected loop (__)
- 3.7 Start CONTAINMENT SPRAY PUMP in selected loop..... (__)
- 3.8 Open 80-115, CONT SPRAY TO RAD WASTE IV 12..... (__)
- 3.9 Open 80-114, CONT SPRAY TO RAD WASTE IV 11 (__)
- 3.10 Throttle 80-118, CONT SPRAY TEST TO TORUS FCV as required to control flow to Waste Collector Tank (__)
- 3.11 Monitor 58-05A and 58-06A, TORUS H₂O LEVEL indicators, for level response (__)

ATTACHMENT 15
Torus Water to Waste Collector

Page 3 of 3

- 3.12 WHEN the torus reaches the desired level, open 80-118 to reduce flow to Waste Collector Tank ()
- 3.13 Close 80-115, CONT SPRAY TO RAD WASTE IV 12..... ()
- 3.14 Close 80-114, CONT SPRAY TO RAD WASTE IV 11..... ()
- 3.15 Stop CONTAINMENT SPRAY PUMP..... ()
- 3.16 Stop CONTAINMENT SPRAY RAW WATER PUMP ()

4.0 RESTORATION

INITIALS/DATE

NOTE: This section is not performed until specifically directed by the SM.

- 4.1 WHEN Torus Water level no longer is required to be lowered, return system to normal standby lineup per N1-OP-14, Section G, Draining Containment Spray Raw Water Heat Exchanger Tube and Shell side for the selected Containment Spray Loop selected.

- Loop 111 ()
- Loop 112 ()
- Loop 121 ()
- Loop 122 () _____ / _____

- 4.2 SM verify that restoration is complete. Record comments in Remarks below:

Remarks: _____

_____/_____/_____
SM (Signature) Date Time

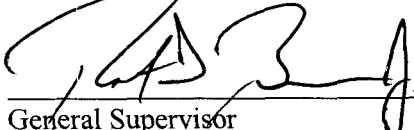
NRC JPM S-3
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Transfer Load from #11 and #12 Feedwater Pumps to #13
Feedwater Pump, #13 Feedwater FCV fails closed
(Alternate Path)

Revision: NRC 2008

Task Number: N1-259001-01010

Approvals:

 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security /
General Supervisor Date
Operations (Designee)

N/A – Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform Simulate

Evaluation Location: Plant X Simulator

Expected Completion Time: 20 Minutes Time Critical Task: No Alternate Path Task: Yes

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize Simulator to IC 182
2. Verify Feedwater flow is $\sim 3.0 \times 10^6$ lbm/hr
3. Verify #11 Feedwater Pump is running with its FCV in AUTO
4. Verify #12 Feedwater Pump is running with its FCV in MANUAL
5. Verify #13 Feedwater Pump is running unloaded with its FCV in MANUAL
6. Verify malfunction FW24 is on TRG1, initial severity = 65.5, final severity = 68, ramp time = 10 seconds
7. Verify TRG1 is set to actuate with the following event (13 FCV M/A station not in manual and FW Master controller in manual)
 - `zdfwmst4==1&&zdfwmacm!=1`

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

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Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. During Evaluated JPM:
 - Self verification shall be demonstrated.
2. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123, 259001, A2.07, RO 3.7, SRO 3.8
2. N1-OP-16

Tools and Equipment:

1. None

Task Standard: #11 or #12 Feedwater pumps maintaining RPV water level in manual.

Initial Conditions:

1. Plant startup is in progress
2. Feedwater flow is 3.0×10^6 lbm/hr
3. #11 Feedwater pump is operating with its FCV in AUTO
4. #12 Feedwater pump is operating with its FCV in MANUAL
5. #13 Feedwater pump has just been started
6. MCPR has been verified SAT
7. All recirc loops are operating
8. Instructor to ask operator for any questions

Initiating Cues:

“(Operator’s name), transfer Feedwater flow to #13 Feedwater pump and place #13 Feedwater FCV in automatic, then shutdown #11 and #12 Feedwater pumps, in accordance with N1-OP-16, section E.10.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-OP-16 obtained Precautions & limitations reviewed Section E.10 referenced	Sat/Unsat
3. Verify MCPR > minimum MCPR in the CRC book	Verifies MCPR is SAT per initial conditions	Sat/Unsat
<u>Note:</u> Given in the initial conditions		
4. Transfer load from the Feedwater pump with its FCV in Manual (11 or 12) to the Shaft Pump by slowly opening 13 FCV AND slowly closing the FCV in Manual until the manual FWP FCV output is zero	Rotate knob CW to increase flow on FWP 13 FCV and rotate knob CCW to lower flow on FWP 12 FCV, and then verify FWP 12 FCV output is zero by observing controller indication	Pass/Fail

Performance Steps	Standard	Grade
5. Transfer load from the Feedwater pump with its FCV in AUTO (11 or 12) to the Shaft Pump by slowly opening 13 FCV until the AUTO Feedwater Pump FCV output is approximately zero	Rotate knob CW to increase flow on FWP 13 FCV and then observe approximately zero flow on FWP 11	Pass/Fail
6. Verify Manual output knob on M/A station of FCV in AUTO (11 or 12) fully counterclockwise	Verifies Manual output knob on M/A station of FWP 11 FCV is rotated fully CCW	Sat/Unsat
7. Place VALVE CONTROL M/A station in AUTO (11 or 12) to MAN	Places VALVE CONTROL M/A station in AUTO (11) to MAN by rotating mode switch CW	Pass/Fail
8. Control Vessel level using FWP 13 FCV in Manual	Adjusts Manual output knob on M/A station of FWP 13 FCV as necessary to control Vessel level	Sat/Unsat
9. Place FWP 13 Valve Control M/A station in AUTO/BAL by performing the following:		
<ul style="list-style-type: none"> Verify Feedwater Master Controller M/A station in Manual 	Mode switch on Feedwater Master Controller aligned to MANUAL	Pass/Fail
<ul style="list-style-type: none"> Null FWP 13 Valve Control by adjusting knob on Feedwater Master Controller until deviation meter reads 50% (red dot) on FWP 13 Valve Control GEMAC 	Rotates knob on Feedwater Master Controller CW or CCW and observes deviation meter on FWP 13 Valve Controller at 50% (red dot)	Sat/Unsat
<ul style="list-style-type: none"> Place FWP 13 Valve Control mode switch to AUTO or BAL 	Rotates mode switch on Feedwater Master Controller CCW to AUTO or BAL	Pass/Fail
<p>Note: Verify TRG1 goes active when the following two conditions are met:</p> <ul style="list-style-type: none"> 13 FW FCV M/A station is NOT in manual FW Master controller is in manual <p>TRG1 activates malfunction FW24, causing FWP 13 FCV to fail in the closed direction to 32% open over 10 seconds</p> <p>Note: The applicant should observe faulty response of FCV and must refer to N1-SOP-16.1, Feedwater System Failures, to control RPV level. JPM steps 10-12 will only be performed until the applicant recognizes the slow failure of 13 FW FCV.</p>		

Performance Steps	Standard	Grade
10. Null setpoint error on Feedwater Master Controller by adjusting Thumbwheel/Setpoint tape to align Manual Setpoint (orange arrow) directly under Automatic Setpoint (green band)	Rotates thumbwheel on Feedwater Master Controller up or down and observes orange needle under green band on setpoint deviation meter	Sat/Unsat/ NA
11. Place Feedwater Master Controller M/A station in AUTO or BAL	Rotates Feedwater Master Controller mode switch CCW to AUTO or BAL	Sat/Unsat/ NA
12. Confirm 13 FCV response to FW Master control adjustment by observing position indicator POI 29-134	Recognizes faulty response of 13 FCV	Sat/Unsat/ NA
13. Per N1-SOP-16.1, using available FCVs, take manual control of FWLC at M/A stations placing controllers in Manual, and attempt to control RPV level	Injects to the RPV with 11 and/or 12 Feedpump by rotating respective M/A station knob CW, and observes RPV level response	Pass/Fail
14. Restore RPV level 65" – 83"	Restores and maintains RPV level 65" – 83"	Pass/Fail
15. Inform CRS that FWP 11 and/or 12 is in service in manual maintaining vessel level 65" to 83"	Proper communications used	Sat/Unsat

Terminating Cue: #11 or #12 Feedwater pumps maintaining RPV water level in manual

RECORD STOP TIME _____

Initial Conditions:

1. Plant startup is in progress
2. Feedwater flow is $\sim 3.0 \times 10^6$ lbm/hr
3. #11 Feedwater pump is operating with its FCV in AUTO
4. #12 Feedwater pump is operating with its FCV in MANUAL
5. #13 Feedwater pump has just been started
6. MCPR has been verified SAT
7. All recirc loops are operating

Initiating Cues:

“(Operator’s name), transfer Feedwater flow to #13 Feedwater pump and place #13 Feedwater FCV in automatic, then shutdown #11 and #12 Feedwater pumps, in accordance with N1-OP-16, section E.10.”

E. STARTUP (Cont)

Initials

10.0 Transfer Load from Motor-Driven Pumps to Shaft Pump

NOTE: The Minimum Flow Valves operate as follows:

- 29-51 (29-52), 6 Inch Flow Control Valve FWP 11(12), opens on low pump flow at approx. 0.9×10^6 lbm/hr AND is fully opened at approx. 0.376×10^6 lbm/hr.
- 29-25, Minimum Flow Valve FWP 13, closes on rising FWP 13 flow AND is fully closed at $.77 \times 10^6$ lbm/hr.

CAUTION

Failure to maintain MCPR > minimum MCPR logged in the CRC book will result in the plant being in an unanalyzed condition.

10.1 Verify MCPR > minimum MCPR logged in the CRC book.

NOTE: Reactor Vessel Water Level must be monitored closely while performing the following:

CAUTION

While manually transferring load from the feedwater pump in manual (11 or 12) to the Shaft Pump, load on the feedwater pump in AUTO should be maintained less than 1.6×10^6 lbm/hr.

10.2 Transfer load from the feedwater pump with its FCV in Manual (11 or 12) to the Shaft Pump by slowly opening 13 FCV AND slowly closing the FCV in Manual until the manual FWP FCV output is zero

10.3 Transfer load from the feedwater pump with its FCV in AUTO (11 or 12) to the Shaft Pump by slowly opening 13 FCV until the AUTO Feedwater Pump FCV output is approximately zero

10.4 Verify Manual output knob on M/A station of FCV in AUTO (11 or 12) fully counterclockwise

E.	<u>STARTUP</u>	(Cont)	<u>Initials</u>
10.5	Place VALVE CONTROL M/A station in AUTO (11 or 12) to MAN		_____
10.6	Control Vessel level using FWP 13 FCV in Manual		_____
<u>NOTES:</u>			
	1.	The FEEDWATER MASTER CONTROL deviation meter indicates the difference between AUTO and MANUAL Signals in the BALANCE mode AND the difference between the AUTO setpoint level and actual level in the MANUAL mode.	
	2.	The MANUAL signal is nulled to the automatic setpoint in BALANCE when required.	
	3.	The AUTO setpoint is nulled to the actual level in MANUAL when required.	
	4.	FW Control System is tuned for only one FCV in AUTO at any one time, operation with more than one FCV in AUTO may cause unstable system performance.	
10.7	Place FWP 13 VALVE CONTROL M/A station in AUTO/BAL by performing the following:		
	10.7.1	Verify FEEDWATER MASTER CONTROLLER M/A station in MAN	_____
	10.7.2	Null FWP 13 VALVE CONTROL by adjusting manual knob on FEEDWATER MASTER CONTROLLER UNTIL deviation meter reads 50% (red dot) on FWP 13 VALVE CONTROL GEMAC.	_____
	10.7.3	Place FWP 13 VALVE CONTROL M/A station mode switch to AUTO or BAL	_____
10.8	Null setpoint error on FEEDWATER MASTER CONTROL by adjusting Thumbwheel/Setpoint tape to align manual setpoint (orange arrow) directly under automatic setpoint (green band).		_____
10.9	Place FEEDWATER MASTER CONTROL M/A station in AUTO or BAL		_____
10.10	Confirm FW MASTER CONTROL response by adjusting thumbwheel to maintain vessel level.		_____
10.11	Confirm #13 FCV response to FW Master control adjustment by observing position indicator POI 29-134		_____

E.	<u>STARTUP</u>	(Cont)	<u>Initials</u>
10.12	Shut down one motor-driven Feedwater Pump		_____
	<ul style="list-style-type: none">• Confirm aux oil pump running by observing red light lit• Confirm pump shaft is <u>NOT</u> rotating backwards		_____ _____
10.13	Shut down the remaining motor-driven Feedwater Pump		_____
	<ul style="list-style-type: none">• Confirm aux oil pump running by observing red light lit• Confirm pump shaft <u>NOT</u> rotating backwards		_____ _____
10.14	Raise AND maintain FWP 13 flow above 3.5×10^6 lbm/hr load		_____
10.15	IF Seal Water Booster Pump is to remain running THEN, Perform Section F. Adjusting FWP Seal Booster Pump Pressure and Flow, to ensure proper FWP seal flows and pressures		_____
	N/A, Seal Water Booster Pump to be removed from service		()
10.16	IF it is desired to remove the Seal Water Booster Pump from service THEN, perform Section G, Shutdown Feedwater Seal Booster Pump		_____
	N/A, Seal Water Booster Pump to remain in-service		()

N1-SOP-16.1 - FEEDWATER SYSTEM FAILURES

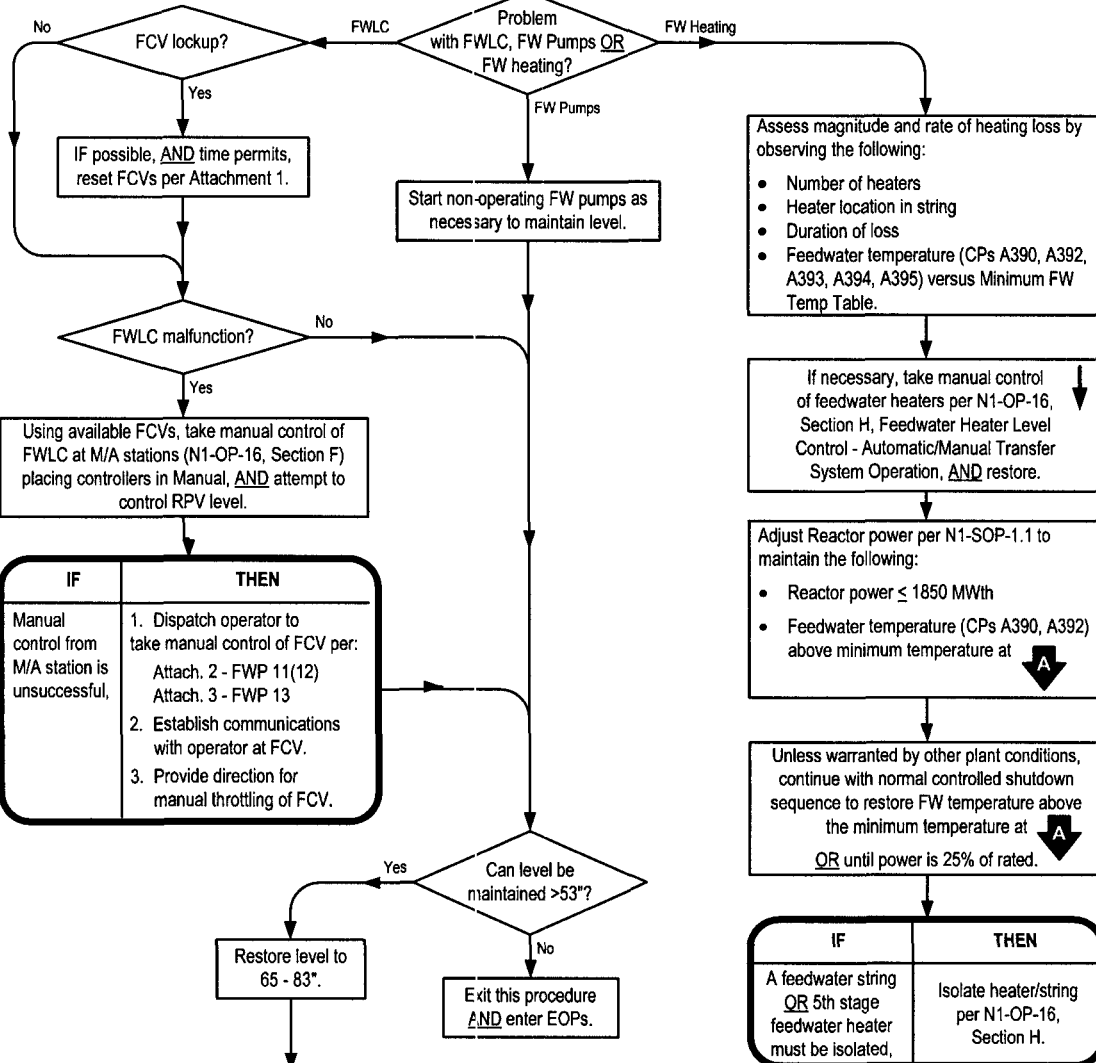
NOTE: Entry into this SOP may require classification of the emergency per EPIP-EPP-01.

EVENT DESCRIPTION

- F2-3-3, REACT VESSEL LEVEL HIGH-LOW
- Feedwater Pump Trip
- Feedwater Level Control Malfunction
- Loss of FW Heating

Immediate Actions Shadowed

IF	THEN
RPV level is lowering,	Reduce Reactor power per N1-SOP-1.1 as necessary to maintain level.
A Reactor Scram occurs,	Exit this procedure AND enter N1-SOP-1.
A Turbine trip occurs,	Exit this procedure AND enter N1-SOP-31.1.
13 FWP trips AND level can NOT be maintained,	SCRAM the Reactor, exit this procedure AND enter N1-SOP-1.



IF	THEN
A feed/steam flow OR narrow range level instrument is malfunctioning,	Shift Reactor Pressure/Level Columns or Feedwater Modes per N1-OP-16, Section F AND return FWLC to auto.
FCV was placed in manual control,	When desired, return FCV to automatic per: • Attachment 2 - FWP 11(12) • Attachment 3 - FWP 13
Transient was caused by FW pump trip,	1. Place the TRIPPED motor driven FW PUMP control switch to STO? 2. Confirm Aux Oil Pump is running by observing red light. 3. Confirm pump shaft is NOT rotating backwards.

NINE MILE POINT NUCLEAR STATION UNIT 1
SPECIAL OPERATING PROCEDURE

PROCEDURE NUMBER	PAGE NUMBER	REVISION NUMBER
N1-SOP-16.1	02	02

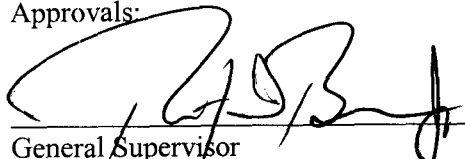
NRC JPM S-4
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Startup Control Room Ventilation System

Revision: NRC 2008

Task Number: N1-288003-01001

Approvals:

 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security /
General Supervisor Date
Operations (Designee)

N/A – Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform Simulate

Evaluation Location: Plant X Simulator

Expected Completion Time: 15 Minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize Simulator to IC 184
2. Verify control room ventilation is secured in accordance with N1-OP-49, section G
3. Verify Cooling Coil Block Valve selected to 12
4. Verify EVS Fan 11 in AUTO

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. During Evaluated JPM:
 - Self verification shall be demonstrated.
2. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123, 290003, A4.01 (RO 3.2, SRO 3.2)
2. N1-OP-49

Tools and Equipment:

1. None

Task Standard: Startup the Control Room Ventilation System per N1-OP-49.

Initial Conditions:

1. The control room ventilation system is being restarted following maintenance
2. N1-OP-49, Attachment 1 valve lineup is complete
3. N1-OP-49, Attachment 2 electrical lineup is complete
4. Instructor to ask operator for any questions

Initiating Cues:

“(Operator’s name), startup the Control Room Ventilation System in accordance with N1-OP-49, with the following lineup:

- Emergency Fan 12 in AUTO
- Cooling Coil 11 in service
- Chilled Water Circulating Pump 11 in service
- Control Room Circulating Fan 11 in service”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-01)	Sat/Unsat

RECORD START TIME _____

2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-OP-49 obtained Precautions & limitations reviewed Section E referenced	Sat/Unsat
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Note: Step E.1.0 is NOT required since the valve and electrical lineups are complete per the initial conditions

3. Verify the following are open:		
• 210-08, INLET BV 12	Observes 210-08 red light on, green light off	Sat/Unsat
• 210-39, INLET BV 11	Observes 210-39 red light on, green light off	Sat/Unsat
4. Verify the following are closed:		
• 210-40, 11 CR Emergency Fan Inlet BV	Observes 210-40 green light on, red light off	Sat/Unsat

Performance Steps	Standard	Grade
<ul style="list-style-type: none"> • 210-41, 12 CR Emergency Fan Inlet BV 	Observes 210-41 green light on, red light off	Sat/Unsat
5. Place EMER FAN 12 control switch in AUTO	Places Control Room Emergency Fan 12 control switch in AUTO	Pass/Fail
6. Place EMER FAN 11 control switch in OFF	Places Control Room Emergency Fan 11 control switch in OFF	Pass/Fail
7. Place COOLING COIL 11 BLOCK VALVE selector switch in position 11	Places Cooling Coil 11 in service by rotating selector switch CCW	Sat/Unsat
8. Depress START pushbutton for CHILLED WATER CIRCULATING PUMP 11 and confirm red indicator light lit	Depressed START pushbutton for Chilled Water Circulating Pump 11, and then observes red light lit	Pass/Fail
9. Start 111 CHILLER COMPRESSOR 112 or 121 CHILLER COMPRESSOR 122:		
a. Place 111 CHILLER COMPRESSOR 112 control switch in RUN	Rotates 111 CHILLER COMPRESSOR 112 control switch CW to RUN	Pass/Fail
b. Place 121 CHILLER COMPRESSOR 122 control switch in RUN	Rotates 121 CHILLER COMPRESSOR 122 control switch CW to RUN	Pass/Fail
c. Depress CHILLER 11 START pushbutton	Depresses CHILLER 11 pushbutton, and then observes red light lit	Pass/Fail
d. Depress CHILLER 12 START pushbutton	Depresses CHILLER 12 pushbutton, and then observes red light lit	Pass/Fail
e. Confirm at least one lead chiller compressor red light lit.	Observes red lights lit for 111 CHILLER COMPRESSOR 112 and 121 CHILLER COMPRESSOR 122	Sat/Unsat
<p>Note: The red lights for the Chiller Compressors do not energize for approximately 2-3 minutes while the compressor timer cycles</p> <p>Cue: Time compression is in effect, 111 and 121 Chiller Compressor red lights are lit</p>		
10. Start CR Circulating Fan by performing the following:		
a. If Control Room Emergency	Circulating Fan 11 control switch rotated CW	Pass/Fail

Performance Steps	Standard	Grade
Fan 12 was placed in AUTO, then place Circulating Fan 11 in RUN	to RUN	
11. Inform CRS that the Control Room Ventilation System is operating	Proper communications used (GAP-OPS-01)	Sat/Unsat

Role Play: Acknowledge report

Terminating Cue: Control Room Ventilation system is operating with the following lineup:

- Emergency Fan 12 in AUTO
- Cooling Coil 11 in service
- Chilled Water Circulating Pump 11 in service
- Control Room Circulating Fan 11 in service

RECORD STOP TIME _____

Initial Conditions:

1. The control room ventilation system is being restarted following maintenance
2. N1-OP-49, Attachment 1 valve lineup is complete
3. N1-OP-49, Attachment 2 electrical lineup is complete

Initiating Cues:

“(Operator’s name), startup the Control Room Ventilation System in accordance with N1-OP-49, with the following lineup:

- Emergency Fan 12 in AUTO
- Cooling Coil 11 in service
- Chilled Water Circulating Pump 11 in service
- Control Room Circulating Fan 11 in service”

E.	<u>STARTUP</u>	<u>Initials</u>
1.0	Perform the following at the direction of the SM:	
1.1	Valve Lineup completed per Attachment 1	_____
1.2	Electrical Lineup performed per Attachment 2	_____
2.0	IF EMER. VENT SYS. CHANNEL 11 or 12 alarm lights are lit, THEN depress RESET	_____
3.0	Verify open the following:	
	● 210-08, INLET BV 12	_____
	● 210-39, INLET BV 11	_____
4.0	Verify closed the following:	
	● 210-40, 11 CR Emergency Fan Inlet BV (DAMPER)	_____
	● 210-41, 12 CR Emergency Fan Inlet BV (DAMPER)	_____
5.0	Place EMER FAN 11 (12), control switch in AUTO	_____
6.0	Place EMER FAN 12 (11), control switch in OFF	_____
7.0	Place COOLING COIL 11(12) BLOCK VALVE selector switch in position 11 (12)	_____
8.0	Depress START pushbutton for CHILLED WATER CIRCULATING PUMP 11 (12) AND confirm red indicator light lit	_____
9.0	Starting 111 CHILLER COMPRESSOR 112 or 121 CHILLER COMPRESSOR 122:	
9.1	Place 111 CHILLER COMPRESSOR 112 Control Switch in RUN	_____
9.2	Place 121 CHILLER COMPRESSOR 122 Control Switch in RUN	_____
9.3	Depress CHILLER 11 START pushbutton	_____
9.4	Depress CHILLER 12 START pushbutton	_____
9.5	Confirm at least one lead chiller compressor red indicator light lit	_____
10.0	Starting CR Circulating Fan by performing one of the following:	
10.1	IF Control Room EMER FAN 11 was placed in AUTO, THEN place CONTROL ROOM CIRCULATING FAN 12 in RUN	_____
10.2	IF Control Room EMER FAN 12 was placed in AUTO, THEN place CONTROL ROOM CIRCULATING FAN 11 in RUN	_____

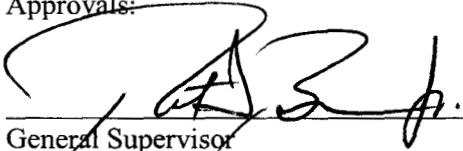
NRC JPM S-5
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: EDG 103 S/D- PB 103 Return to Normal Power
(Alternate Path)

Revision: NRC 2008

Task Number: N1-262001-01005

Approvals:

 / 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A - Exam Security /
General Supervisor Date
Operations (Designee)

N/A - Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform _____ Simulate

Evaluation Location: _____ Plant X Simulator

Expected Completion Time: 20 Minutes Time Critical Task: No Alternate Path Task: Yes

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize Simulator to IC 185
2. Verify PB 103 is supplied by EDG 103 per N1-OP-45 section E.3
3. Verify CRD Pump 11 in service
4. Verify the Annunciator L1-4-5 is overridden to "Fail Off", to simulate alternate SFP pump in service
5. Verify malfunction RD35B is inserted as "TRUE", to simulate prevent start of 12 CRD pump
6. Verify override 5DS267LO2348 is inserted as "OFF", to simulate prevent start of 12 CRD pump
7. Verify malfunction DG05B is inserted as "TRUE" for failure of EDG 103 to stop

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. During Evaluated JPM:
 - Self verification shall be demonstrated.
2. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123, 264000, A4.05, RO 3.6, SRO 3.7
2. N1-OP-45

Tools and Equipment:

1. None

Task Standard: Shutdown EDG 103 and reenergize PB 103.

Initial Conditions:

1. EDG 103 is supplying PB 103 due to maintenance on breaker R1013
2. EDG 103 has been at minimum load for the past hour, and at 700 KW for the previous 24 hours
3. 115 KV power is stable
4. N1-OP-45 section G.2 is complete through step 2.6
5. Instructor to ask operator for any questions

Initiating Cues:

“(Operator’s name), shutdown EDG 103 and return PB 103 to normal power in accordance with N1-OP-45, beginning at step G.2.7.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-OP-45 obtained Precautions & limitations reviewed Section G.2 referenced	Sat/Unsat
3. Verify GREEN flagged R1013, PB 103 Normal Power Supply Breaker	Rotates R1013 control switch CW from PTL to neutral	Pass/Fail
4. Place and HOLD in TRIP position R1032, Diesel Generator 103 Output Breaker	Rotates R1032 control switch CCW and holds in trip position	Pass/Fail
5. When 3 to 5 seconds has elapsed, close R1013	Rotates R1013 control switch CW, observes red light on, green light off	Pass/Fail
6. Confirm normal voltage on PB 103 and PB 17B	Observes ~4160 VAC on PB 103 voltmeter, and observes ~600 VAC on PB 17B voltmeter	Sat/Unsat

Performance Steps	Standard	Grade
7. Return R1032 to Neutral Position	Releases R1032 to the neutral position	Pass/Fail
8. Reset Lockout 86-17 device Note: Lockout device may not need to be reset if R1013 is closed closer to 3 seconds than 5 seconds (Step 5 above)	Rotates 86-17 control switch CW to reset position	Pass/Fail/NA
9. Install Close fuse for CRD pump 12 Cue: Field operators will install fuse Note: Delete malfunction RD35B & override 5DS267L02348, then report close fuse for CRD pump 12 has been installed and verified	Proper communications used (GAP-OPS-01)	Sat/Unsat
10. Verify Green light ON for CRD pump 12 Note: The green light will not be lit until the instructor note in step 9 above is completed	Observes CRD pump 12 green light on	Sat/Unsat
11. Verify EDG Raw Water Cooling Pump started. Cue: EDG 103 Raw Water Cooling Pump has started	Proper communications used (GAP-OPS-01)	Sat/Unsat
12. Restore normal loads on PB17B Cue: Another operator will restore PB17B loads	Proper communications used (GAP-OPS-01)	Sat/Unsat
13. IF EDG has run idle for 8 hours OR operated less than 500 KW for 4 1/2 hours, THEN shutdown EDG per Section G, Recovery after Light Load Operation Note: This step is N/A based on initial conditions	Determines step is N/A based on initial conditions	Sat/Unsat
14. Verify Speed Droop set to zero Cue: EDG 103 Speed Droop set to zero	Proper communications used (GAP-OPS-01)	Sat/Unsat

Performance Steps	Standard	Grade
15. Adjust Governor to achieve greater than or equal to 60.1 Hz synchronous speed AND the Governor high speed light lit as follows.		
a. Adjust speed until governor yellow high speed light is lit	Raises EDG 103 speed as necessary by rotating governor control switch CCW, observes yellow high speed light lit	Sat/Unsat
b. Adjust speed to achieve greater than or equal to 60.1 Hz with a maximum of 60.2 Hz.	Raises EDG 103 speed as necessary by rotating governor control switch CCW, and observes EDG 103 frequency of 60.1-60.2 Hz	Sat/Unsat
Note: This step may be N/A based on EDG speed		
16. Independently verify speed greater than or equal to 60.1 HZ (max 60.2 Hz)	Proper communications used (GAP-OPS-01)	Sat/Unsat
Cue: Speed is as you adjusted it.		
17. Adjust voltage to 4200 V using VOLT ADJ RHEO GEN 103	Raises EDG 103 voltage as necessary by rotating voltage regulator control switch CCW, and observes voltage ~4200V	Sat/Unsat
18. Place DIESEL GEN 103 control switch in STOP	Rotates EDG 103 control switch CCW to STOP position, observes EDG 103 output voltage lower	Pass/Fail
19. When approximately 3 minute cooldown has elapsed, verify EDG 103 stopped	Recognizes that EDG did not stop as it should have	Sat/Unsat
Cue: Time compression is in effect, 4 minutes have elapsed		
Note: The applicant should recognize that the EDG should have stopped		
20. If the EDG did not shutdown, refer to Section G.7.0, Emergency Shutdown	Refers to N1-OP-45 section G.7.0, Emergency Shutdown	Sat/Unsat
21. If offsite power is not available, THEN verify R1012 OR 1013 in Pull-To-Lock	Determines offsite power is available per initial conditions	Sat/Unsat
Note: This step is N/A, Offsite power is available per the initial conditions		

Performance Steps	Standard	Grade
22. If a loss of 125 VDC power is lost due to loss of battery board 11 or 12, then restore power per SOP-47.A1 Note: This step is N/A, 125 VDC is available	Determines 125 VDC power is available based on various control room indications	Sat/Unsat
23. Place DIESEL GEN control switch to EM STOP	Rotates EDG 103 control switch CCW to EM STOP position, observes EDG 103 frequency lower	Pass/Fail

Terminating Cue: EDG 103 stopped and PB 103 energized

RECORD STOP TIME _____

Initial Conditions:

1. EDG 103 is supplying PB 103 due to maintenance on breaker R1013
2. EDG 103 has been at minimum load for the past hour, and at 700 KW for the previous 24 hours
3. 115 KV power is stable
4. N1-OP-45 section G.2 is complete through step 2.6

Initiating Cues:

“(Operator’s name), shutdown EDG 103 and return PB 103 to normal power in accordance with N1-OP-45, beginning at step G.2.7.”

G. SHUTDOWN (Cont)

2.0 EDG 103 S/D - PB 103 Return to Normal Power

WARNING

(C2) Restoration of multiple trains simultaneously can increase station vulnerability. Restoration should be prioritized such that trains are restored one at a time.

(C2) 2.1 Confirm 115KV System available, stable AND reliable.....()

2.2 Obtain SSS permission to shutdown EDG 103()

NOTES:

1. Attachment 4 contains a listing of major PB loads and KW ratings to be used as a guide.

2. Deenergizing PB 103 requires entry into the following T.S. LCOs:

- 3.1.5.b (ADS) - 10 hour
- 3.1.4.c (Core Spray) - 7 day
- 3.3.4.b (PCIV's) - 4 hour
- 3.1.6.b (CRD Pumps) - 7 day
- 3.2.7.c (Rx Coolant IV's) - 1/10 hour
- 3.3.7.c (Cont. Spray) - 7 day
- 3.4.4.e (RBEVS) - 7 day
- 3.1.2.b (Liquid Poison) - 7 day
- 3.6.3.h (Battery Charger) - 24 hour
- 3.4.5.e (CREVS due to ESW pump lost) - 7 day
- 3.6.3.c (102 Diesel Gen) - 14 day
- 3.1.8.b (HPCI Train 11) - 15 day

The above listed LCO times assume that PB 102 loads are operable.

3. Reenergizing PB 103 will auto start CRD Pump 12.

2.3 Shift required loads from PB 17B to an alternate power supply()

G. SHUTDOWN (Cont)

NOTE: 12 SFP Cooling Pump receives a trip signal when Lockout Relay 86-17 actuates.

2.4 Verify 11 SFP Cooling Pump in service..... ()

NOTE: Control Rod Drive Pump Coolant Injection [T.S. 3.1.6] applies when close fuses are removed from pump breaker.

2.5 IF CRD Pump 12 is in standby, THEN remove CLOSE fuse from pump breaker..... ()

N/A, CRD Pump 12 in service ()

2.6 Confirm minimum load on EDG 103..... ()

CAUTIONS

1. The following step will remove power from the Raw Water Cooling pump, and cooling water flow to the Diesel will be momentarily interrupted (PB 171B).
2. Operating a Diesel Generator in parallel with Offsite power while unstable grid conditions are occurring can result in the loss of the Diesel Generator and the Bus during a grid transient.

2.7 Verify green flagged R1013, PB 103 Normal Power Supply Breaker ()

2.8 Place AND hold in TRIP position R1032, Diesel Generator 103 Output Breaker ()

2.9 WHEN 3 to 5 seconds has elapsed, close R1013..... ()

2.10 Confirm normal voltage on PB 103 and PB 17B..... ()

2.11 Return R1032 to Neutral Position ()

2.12 Reset LOCKOUT 86-17 device ()

2.13 Install CLOSE fuse for CRD Pump 12..... ()

2.14 Independent verify CLOSE fuse installed for CRD Pump 12..... ()

2.15 Verify Green Light ON for CRD Pump 12 ()

NOTE: Control Rod Drive Pump Coolant Injection [T.S. 3.1.6] entered above may be exited applies when close fuses are installed in pump breaker.

2.16 Verify Diesel Generator Raw Water Cooling Pump started ()

2.17 Restore normal loads on PB 17B ()

2.18 IF EDG 103 has run idle for 8 hours OR operated less than 500 kw for 4½ hours, THEN shutdown EDG 103 per Section G., EDG 103 Recovery After Light Load Operation..... ()

N/A - EDG 103 has not run idle for 8 hours OR operated less than 500 kw for 4 1/2 hours ()

G. SHUTDOWN (Cont)

2.19 Verify Speed Droop set to 0 ()

NOTE: The "Governor High Speed Stop" limit switch has a tight tolerance. The limit switch may not light the lamp until 60.3 Hz is achieved and could extinguish at 59.8 Hz. When adjusting the governor to 60 Hz, the adjustment may require slightly exceeding 60 Hz and then lowering to greater than or equal to 60 Hz (maximum 60.2 Hz) to ensure the yellow Governor High Speed Stop light will stay lit. (See LIMITATION AND PRECAUTION 19.0)

2.20 Adjust Governor to achieve greater than or equal to 60.1 Hz Synchronous speed AND the Governor yellow high speed light lit as follows

a. Adjust speed until Governor yellow high speed stop light is lit ()

b. Adjust speed to achieve greater than or equal to 60.1 Hz with a maximum of 60.2 Hz ()

2.21 Independently verify speed to greater than or equal to 60.1 Hz (maximum 60.2)..... ()

NOTE: Voltage can not be adjusted if output breaker was not closed after starting of EDG.

2.22 Adjust voltage to 4200 volts using VOLT ADJ RHEO GEN 103 ()

2.23 Place DIESEL GEN 103 control switch in STOP ()

2.24 WHEN approximately 3 minute cooldown has elapsed, verify EDG 103 stopped ()

NOTE: If 125 VDC power is lost, power is not available to energize the shutdown solenoid to shut-down the diesel.

2.25 IF the diesel did not shut down,
THEN go to Section G.7.0, EDG Emergency Shutdown.

N/A, EDG 103 shut down ()..... ()

2.26 Confirm annunciator A5-2-3, DSL-GEN 103 START, clears ()

2.27 Verify the following pumps operating:

● Turbo Oil Pump ()

● Circulating Oil Pump operating..... ()

G. SHUTDOWN (Cont)

7.0 EDG Emergency Shutdown

7.1 IF off-site power is NOT available,
THEN verify R1012 or R1013 in PULL-TO-LOCK..... ()

N/A - Offsite power is available ()

NOTE: If 125 VDC power is lost, power is not available to energize the shutdown solenoid to shut-down the diesel.

7.2 IF loss of 125 VDC power is lost due to loss of Battery Board 11 or 12,
THEN enter N1-SOP-47A.1 to restore 125 VDC power.

N/A, 125 VDC power not lost..... ()..... ()

NOTE: The emergency stop bypasses the time delay associated with a normal stop signal.

7.3 Place DIESEL GEN control switch to EM STOP ()

7.4 IF diesel still running,
THEN perform the following locally as required:..... ()

N/A - Diesel stopped running..... ()

- Place EDG, RAW WATER PUMP control Switch to MAN
- Depress alarm RESET AND FAST STOP Pushbutton (preferred)
- Raise Fuel Rack Lever to the no fuel position
- Pull 82-75 (82-77) BV - DG 102 (103) EMERGENCY FUEL OIL SHUTOFF handle (Non-preferred), unequal injector shutoff).

7.5 IF outside temperature is less than 50°F AND Diesel Generator stopped,
THEN verify rollup doors closed ()

N/A - Outside temperature not less than 50°F OR Diesel Generator not stopped ()

7.6 WHEN EDG is shutdown, verify EDG, RAW WATER PUMP control
switch placed in AUTO ()

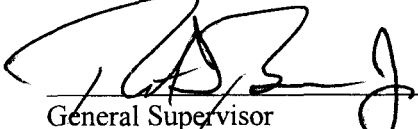
NRC JPM S-6
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Perform RWM Diagnostic & Rod Block Tests

Revision: NRC 2008

Task Number: N1-201003-01001

Approvals:

 / 8/14/2008
General Supervisor _____ Date
Operations Training (Designee)

N/A – Exam Security / _____
General Supervisor _____ Date
Operations (Designee)

N/A – Exam Security / _____
Configuration Control _____ Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform _____ Simulate

Evaluation Location: _____ Plant X Simulator

Expected Completion Time: 20 minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize simulator to IC 183
2. Verify RWM Bypass Switch in "OFF"

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, the use of applicable methods of verification and checking are expected. Therefore, either another individual or I will act as the independent verifier or peer checker.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**.
2. During Evaluated JPM:
 - Self checking shall be demonstrated.
3. During Training JPM:
 - Self checking shall be demonstrated.
 - Peer checking shall be demonstrated.

References:

1. N1-ST-V3
2. K/A 201006 A4.01 thru A4.06 2.9/2.9 to 3.3/3.4

Tools and Equipment:

1. None

Task Standard: RWM system diagnostic test and rod block test complete

Initial Conditions:

1. The plant is shutdown
2. The Rod Worth Minimizer must be retested following corrective maintenance
3. An approved work order requires completion of steps in N1-ST-V3 for the Post Maintenance Testing
4. Instructor to ask for any questions

Initiating Cues:

“(Operator’s name), perform the following sections/steps of N1-ST-V3 for Post Maintenance Testing of the Rod Worth Minimizer:

1. Section 8.2 “RWM Diagnostic Test” – Complete ALL steps
2. Section 8.3 “RWM Select Error test” – Step 8.3.1 through Step 8.3.5 ONLY
3. Section 8.4 “RWM Rod Block Test” – Complete ALL steps”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used (GAP-OPS-01)	Sat/Unsat

RECORD START TIME _____

2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-ST-V3 is obtained Precautions & Limitations reviewed Sections 8.2, 8.3 and 8.4 referenced	Sat/Unsat
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Note : The following Steps are for Section 8.2

3. Place RWM BYPASS Switch in "ON" position	Rotates RWM BYPASS Switch CW to "ON" position	Pass/Fail
4. Place RWM BYPASS Switch in "OFF" position	Rotates RWM BYPASS Switch CCW to "OFF" position	Pass/Fail
5. Press CLEAR BYPASS	Depresses CLEAR BYPASS pushbutton	Pass/Fail
6. Press ERROR CLEAR	Depresses ERROR CLEAR pushbutton	Pass/Fail
7. Press RESET	Depresses RESET pushbutton	Pass/Fail
8. Press SYSTEM START	Depresses SYSTEM START pushbutton	Pass/Fail

Performance Steps	Standard	Grade
<p>9. Momentarily depress SYSTEM DIAGNOSTIC Button AND confirm the following lights cycle ON/OFF:</p> <ul style="list-style-type: none"> a. INSERT BLOCK light at Rod Worth Minimizer Display Panel [INSERT BLOCK light ON then OFF] b. WITHDRAW BLOCK light at Rod Worth Minimizer Display Panel [WITHDRAW BLOCK light ON then OFF] c. Annunciator F3-4-4, ROD BLOCK [F3-4-4 ON then OFF] 	<p>Momentarily depresses SYSTEM DIAGNOSTIC Button AND confirms the following lights cycle ON/OFF:</p> <ul style="list-style-type: none"> a. INSERT BLOCK light at Rod Worth Minimizer Display Panel [INSERT BLOCK light ON then OFF] b. WITHDRAW BLOCK light at Rod Worth Minimizer Display Panel [WITHDRAW BLOCK light ON then OFF] c. Annunciator F3-4-4, ROD BLOCK [F3-4-4 ON then OFF] 	Pass/Fail
<p>10. Place RWM BYPASS Switch in ON position</p>	<p>Rotates RWM BYPASS Switch CW to ON position</p>	Pass/Fail
<p>11. WHEN RWM has sequenced, THEN confirm following lights remain OFF:</p> <ul style="list-style-type: none"> a. INSERT BLOCK light [INSERT BLOCK light OFF] b. WITHDRAW BLOCK light [WITHDRAW BLOCK light OFF] c. Annunciator F3-4-4, ROD BLOCK [F3-4-4 OFF] 	<p>WHEN RWM has sequenced, THEN confirms following lights remain OFF:</p> <ul style="list-style-type: none"> a. INSERT BLOCK light [INSERT BLOCK light OFF] b. WITHDRAW BLOCK light [WITHDRAW BLOCK light OFF] c. Annunciator F3-4-4, ROD BLOCK [F3-4-4 OFF] 	Sat/Unsat
<p>12. Complete Section 10.1.2, Acceptance Criteria, for System Diagnostic Testing</p> <p>Cue: Another operator has completed Section 10.1.2</p> <p>Note: The applicant should now proceed to Section 8.3 and perform steps 8.3.1 thru 8.3.5 ONLY</p>	<p>Proper communications used (GAP-OPS-01)</p>	Sat/Unsat
<p>13. Place RWM BYPASS Switch in OFF position</p>	<p>Rotates RWM BYPASS Switch CCW to OFF position</p>	Pass/Fail
<p>14. Press CLEAR BYPASS</p>	<p>Depresses CLEAR BYPASS pushbutton</p>	Pass/Fail
<p>15. Press ERROR CLEAR</p>	<p>Depresses ERROR CLEAR pushbutton</p>	Pass/Fail
<p>16. Press RESET</p>	<p>Depresses RESET pushbutton</p>	Pass/Fail
<p>17. Press SYSTEM START</p>	<p>Depresses SYSTEM START pushbutton</p>	Pass/Fail

Performance Steps	Standard	Grade
<p>Note: The applicant should now proceed to Section 8.4 for the Rod Block Test</p>		
18. Select an "out of sequence" Rod at position 00 as designated by Reactor Engineering AND record Rod Selected	Selects an "out of sequence" Rod at position 00 as designated by Reactor Engineering AND records Rod Selected	Pass/Fail
<p>Cue: Select Rod 22-51</p>		
19. Confirm SELECT ERROR light ON at Rod Worth Minimizer Display Panel	Confirms SELECT ERROR light ON at Rod Worth Minimizer Display Panel	Sat/Unsat
20. Using CONTROL ROD MOVEMENT Switch in ROD OUT NOTCH mode, withdraw designate Control Rod to "04" position	Using CONTROL ROD MOVEMENT Switch in ROD OUT NOTCH mode, withdraws designate Control Rod to "04" position	Pass/Fail
<p>Cue: Inform Candidate that you are performing the role of both the reactivity SRO and the peer checker. Agree with Candidate's actions as necessary.</p>		
21. Verify Rod motion to position 04	Verifies Rod motion to position 04	Sat/Unsat
22. Using CONTROL ROD MOVEMENT Switch in ROD OUT NOTCH mode, attempt to withdraw designated Control Rod to "06" position AND confirm Rod motion is blocked beyond position "04" is blocked	Using CONTROL ROD MOVEMENT Switch in ROD OUT NOTCH mode, attempts to withdraw designated Control Rod to "06" position AND confirms Rod motion is blocked beyond position "04" is blocked	Pass/Fail
23. Confirm the following indications ON:	Confirms the following indications ON:	Sat/Unsat
<ul style="list-style-type: none"> a. WITHDRAW BLOCK light ON at RWM Display Panel [WITHDRAW BLOCK light ON] b. ROD WORTH MINIMIZER light ON at Rod Block Monitor Display Panel [ROD WORTH MINIMIZER light ON] c. Annunciator F3-4-4, ROD BLOCK - ON [F3-4-4 ON] 	<ul style="list-style-type: none"> a. WITHDRAW BLOCK light ON at RWM Display Panel [WITHDRAW BLOCK light ON] b. ROD WORTH MINIMIZER light ON at Rod Block Monitor Display Panel [ROD WORTH MINIMIZER light ON] c. Annunciator F3-4-4, ROD BLOCK - ON [F3-4-4 ON] 	
24. Re-select designated rod if deselected	Determines rod has NOT deselected	Sat/Unsat
<p>Note: Step is N/A</p>		
25. Attempt to withdraw designated rod to position 06	Attempts to withdraw designated rod to position 06	Pass/Fail

Performance Steps	Standard	Grade
26. Confirm no rod movement	Confirms no rod movement	Sat/Unsat
27. Re-select designated rod if deselected	Determines rod has NOT deselected	Sat/Unsat
Note: Step is N/A		
28. Insert Control Rod to position 00 by placing CONTROL ROD MOVEMENT Switch to ROD IN	Inserts Control Rod to position 00 by placing CONTROL ROD MOVEMENT Switch to ROD IN	Pass/Fail
29. Confirm following lights OFF:	Confirms following lights OFF:	Sat/Unsat
a. WITHDRAW BLOCK light OFF at Rod Worth Minimizer Display Panel	a. WITHDRAW BLOCK light OFF at Rod Worth Minimizer Display Panel	
b. ROD WORTH MINIMIZER light OFF at Rod block Monitor Display Panel	b. ROD WORTH MINIMIZER light OFF at Rod block Monitor Display Panel	
c. Annunciator F3-4-4, ROD BLOCK - OFF	c. Annunciator F3-4-4, ROD BLOCK - OFF	
30. Select a Rod which is In Sequence with prescribed Rod Withdrawal Sequence AND confirm SELECT ERROR light OFF	Selects Rod 06-27 AND confirms SELECT ERROR light OFF	Pass/Fail
Cue: Select rod 06-27		
31. Complete Section 10.1.4, Acceptance Criteria, for RWM Rod Block Testing	Proper communications used (GAP-OPS-01)	Sat/Unsat
Cue: Another operator will complete section 10.1.4		

Terminating Cue: RWM Diagnostic and Rod Block Tests complete

RECORD STOP TIME _____

Initial Conditions:

1. The plant is shutdown
2. The Rod Worth Minimizer must be retested following corrective maintenance
3. An approved work order requires completion of steps in N1-ST-V3 for the Post Maintenance Testing

Initiating Cues:

“(Operator’s name), perform the following sections/steps of N1-ST-V3 for Post Maintenance Testing of the Rod Worth Minimizer:

1. Section 8.2 “RWM Diagnostic Test” – Complete ALL steps
2. Section 8.3 “RWM Select Error test” – Step 8.3.1 through Step 8.3.5 ONLY
3. Section 8.4 “RWM Rod Block Test” – Complete ALL steps”

Initials/Date

8.2 RWM System Diagnostic Test

NOTE: This test is performed in Control Room at Rod Worth Minimizer Display Panel.

8.2.1 Place RWM BYPASS Switch in "ON" position. /

8.2.2 Place RWM BYPASS Switch in "OFF" position. /

8.2.3 Press CLEAR BYPASS. /

8.2.4 Press ERROR CLEAR. /

8.2.5 Press RESET. /

8.2.6 Press SYSTEM START. /

NOTE: Lights and annunciator will cycle on and off until step 8.2.8 is performed.

8.2.7 Momentarily depress SYSTEM DIAGNOSTIC Button AND
[T/S] confirm the following lights cycle ON/OFF:

a. INSERT BLOCK light at Rod Worth Minimizer
Display Panel. [INSERT BLOCK light ON then OFF] /

b. WITHDRAW BLOCK light at Rod Worth Minimizer
Display Panel. [WITHDRAW BLOCK light ON then OFF] /

c. Annunciator F3-4-4, ROD BLOCK.
[F3-4-4 ON then OFF] /

8.2.8 Place RWM BYPASS Switch in ON position. /

8.2.9 WHEN RWM has sequenced, THEN confirm following
[T/S] lights remain OFF:

a. INSERT BLOCK light. [INSERT BLOCK light OFF] /

b. WITHDRAW BLOCK light. [WITHDRAW BLOCK light OFF] /

c. Annunciator F3-4-4, ROD BLOCK. [F3-4-4 OFF] /

8.2.10 Complete Section 10.1.2, Acceptance Criteria, for System Diagnostic Testing.

/

8.3 RWM Select Error Test

8.3.1 Place RWM BYPASS Switch in OFF position.

/

8.3.2 Press CLEAR BYPASS.

/

8.3.3 Press ERROR CLEAR.

/

8.3.4 Press RESET.

/

8.3.5 Press SYSTEM START.

/

- NOTES:**
1. The In Sequence Rod is the first rod in the latched group (group A if all rods are in).
 2. For Rods that are In Sequence, designate applicable steps as N/A.
 3. Control Rods withdrawals shall not be attempted during Select Error Testing.
 4. If performing this section after completely inserting or withdrawing of entire group, RWM will consider all rods in both (previous and subsequent) groups to be "correctly selected" (e.g. SELECT ERROR light will remain off).

8.3.6 Perform the following for first Rod of each letter group which are Out of Sequence with prescribed Control Rod Withdrawal Sequence OR designate as N/A Rods that are In Sequence:

8.3.7 For Rod Group A perform the following:

- a. Select first Rod of Group A AND confirm
[T/S] SELECT ERROR light ON. [SELECT ERROR ON]

N/A, first Rod of Group A In Sequence..... () /

- b. Select an In Sequence Rod, AND confirm
SELECT ERROR light OFF.

N/A, first Rod of Group A In Sequence..... () /

8.3.8 For Rod Group B perform the following:

- a. Select first Rod of Group B AND confirm
[T/S] SELECT ERROR light ON. [SELECT ERROR ON]

N/A, first Rod of Group B In Sequence..... () /

8.3.28 (Cont)

- b. Select an In Sequence Rod, AND confirm
SELECT ERROR light OFF.

N/A, first Rod of Group V In Sequence..... () /

8.3.29 For Rod Group W perform the following:

- [T/S] a. Select first Rod of Group W AND confirm
SELECT ERROR light ON. [SELECT ERROR ON]

N/A, first Rod of Group W In Sequence..... () /

- b. Select an In Sequence Rod, AND confirm
SELECT ERROR light OFF.

N/A, first Rod of Group W In Sequence..... () /

8.3.30 For Rod Group X perform the following:

- [T/S] a. Select first Rod of Group X AND confirm
SELECT ERROR light ON. [SELECT ERROR ON]

N/A, first Rod of Group X In Sequence..... () /

- b. Select an In Sequence Rod, AND confirm
SELECT ERROR light OFF.

N/A, first Rod of Group X In Sequence..... () /

8.3.31 Select first Rod of Letter Group that is In Sequence
with prescribed Rod Withdrawal Sequence.

/

8.3.32 Confirm SELECT ERROR light OFF.

/

8.3.33 Complete Section 10.1.3, Acceptance Criteria, for RWM
Rod Select Error Test.

/

8.4 RWM Rod Block Test

NOTE: RWM Rod Block Testing is performed by
attempting to withdraw an Out-of-Sequence
Control Rod prior to startup, between the
LPSP and 10% power during shutdown.

8.4.1 Select an "out of sequence" Rod at position 00 as
designated by Reactor Engineering AND record Rod
Selected.

ROD SELECTED: _____

/

		<u>Initials/Date</u>
8.4.2	Confirm SELECT ERROR light ON at Rod Worth Minimizer Display Panel.	<u> / </u>
8.4.3	Using CONTROL ROD MOVEMENT Switch in ROD OUT NOTCH mode, withdraw designate Control Rod to "04" position.	<u> / </u>
8.4.4	Verify Rod motion to position 04.	<u> / </u>
8.4.5 [T/S]	Using CONTROL ROD MOVEMENT Switch in ROD OUT NOTCH mode, attempt to withdraw designated Control Rod to "06" position AND confirm Rod motion is blocked beyond position "04" is blocked.	<u> / </u>
8.4.6 (T/S)	Confirm the following indications ON:	
	a. WITHDRAW BLOCK light ON at RWM Display Panel. [WITHDRAW BLOCK light ON]	<u> / </u>
	b. ROD WORTH MINIMIZER light ON at Rod Block Monitor Display Panel. [ROD WORTH MINIMIZER light ON]	<u> / </u>
	c. Annunciator F3-4-4, ROD BLOCK - ON. [F3-4-4 ON]	<u> / </u>
8.4.7	Re-select designated rod if deselected.	<u> / </u>
	NA, rod did not deselect. ()	
8.4.8	Attempt to withdraw designated rod to position 06.	<u> / </u>
8.4.9	Confirm no rod movement.	<u> / </u>
8.4.10	Re-select designated rod if deselected.	<u> / </u>
	NA, rod did not deselect. ()	
8.4.11	Insert Control Rod to position 00 by placing CONTROL ROD MOVEMENT Switch to ROD IN.	<u> / </u>
8.4.12	Confirm following lights OFF:	
	a. WITHDRAW BLOCK light OFF at Rod Worth Minimizer Display Panel.	<u> / </u>
	b. ROD WORTH MINIMIZER light OFF at Rod block Monitor Display Panel.	<u> / </u>
	c. Annunciator F3-4-4, ROD BLOCK - OFF.	<u> / </u>
8.4.13	Select a Rod which is In Sequence with prescribed Rod Withdrawal Sequence AND confirm SELECT ERROR light OFF.	<u> / </u>
8.4.14	Complete Section 10.1.4, Acceptance Criteria, for RWM Rod Block Testing.	<u> / </u>


NRC JPM S-7
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Remove the Generator from the Grid and Perform
Emergency Governor Trip Test

Revision: NRC 2008

Task Number: N1-245000-01041

Approvals:

 / 8/14/2005

General Supervisor
Operations Training (Designee)

Date

N/A – Exam Security

General Supervisor
Operations (Designee)

Date

N/A – Exam Security

Configuration Control

Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform _____ Simulate

Evaluation Location: _____ Plant X Simulator

Expected Completion Time: 20 Minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize simulator to IC 186
2. Verify main generator output 90-120 MWe and 50-100 MVARs to the bus
3. Verify turbine ready to be removed from the grid

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. During Evaluated JPM:
 - Self verification shall be demonstrated.
2. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123, K/A 245000, A4.02 (RO 3.1, SRO 2.9), A4.06 (RO 2.7, SRO 2.6)
2. N1-OP-31
3. N1-PM-V7

Tools and Equipment:

1. None

Task Standard: Generator removed from the grid and Emergency Governor Trip Test complete

Initial Conditions:

1. Plant shutdown is in progress
2. The Main Generator is at 90 MWE and ready to be removed from the grid
3. Instructor to ask operator for any questions

Initiating Cues:

“(Operator’s name), remove the Generator from the grid in accordance with N1-OP-31, Section G.2.0 and perform the Emergency Governor Trip with Lockout Test in accordance with N1-PM-V7, Section 8.1.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used for repeat back (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-OP-31 obtained Precautions & limitations reviewed Section G.2.0 referenced	Sat/Unsat
3. Turn off Auto Reclosure for R925 and R915: • R925 AUTO RECLOSURE off • R915 AUTO RECLOSURE off	Rotates control switch CCW to OFF for: • R925 AUTO RECLOSURE • R915 AUTO RECLOSURE	Pass/Fail
4. Bring Governor (speed/load changer) in control AND continue to lower generator load to 40-50 MWe <u>Note:</u> Expected that annunciators A1-4-6 & F1-4-8 will alarm	Rotates Governor control switch CW to LOWER, observes lowering Governor setpoint indication, observes lowering MWe, releases Governor control switch to obtain 40-50 MWe	Pass/Fail
5. Lower Megavars to zero	Rotates Voltage Regulator Adjustment control switch CW to LOWER, observes lowering MVAR, releases switch to obtain zero MVAR	Pass/Fail

Performance Steps	Standard	Grade
6. Open R925 and R915	Opens R925 and R915 by placing associated control switches to TRIP, observes green lights on, red lights off	Pass/Fail
7. Open SW 18	Opens SW 18 by rotating control switch CCW to TRIP, observes green light on, red light on	Sat/Unsat
8. Place the control switch for SW 18 in Pull-to-Lock	Rotates control switch CCW and pulls to retain in Pull-to-Lock, observes green light off	Sat/Unsat
9. Place VOLTAGE REG TRANSFER switch to OFF	Rotates VOLTAGE REG TRANSFER switch CCW to OFF, observes green light on, red light off	Sat/Unsat
10. Place EXCITER switch to TRIP	Rotates EXCITER switch CCW to TRIP, observes green light on, red light off	Sat/Unsat
11. Perform Turbine Overspeed testing per N1-PM-V7	Refers to N1-PM-V7, Section 8.1	Sat/Unsat
<u>Cue:</u> N1-PM-V7 Section 8.1 is required		
12. Verify NORMAL (green) light on, above Turbine speed indicator (Panel 1B)	Observes NORMAL (green) light on, above Turbine speed indicator (Panel 1B)	Sat/Unsat
13. Turn EMERG GOV OIL TRIP LOCKOUT switch to LOCKOUT	Rotates EMERG GOV OIL TRIP LOCKOUT switch CW to LOCKOUT	Pass/Fail
14. Confirm LOCKOUT (yellow) light ON	Observes LOCKOUT (yellow) light ON	Sat/Unsat
15. Turn EMERG GOV OIL TRIP TEST switch to TRIP position, AND verify the following:	Rotates EMERG GOV OIL TRIP TEST switch CCW to TRIP position, AND observes the following:	Pass/Fail
() NORMAL (green) light off	() NORMAL (green) light off	
() TRIP (red) light on (Emergency Governor tripped)	() TRIP (red) light on (Emergency Governor tripped)	
() Annunciator A1-3-7, TURBINE EMERGENCY GOVERNOR TRIP, ON	() Annunciator A1-3-7, TURBINE EMERGENCY GOVERNOR TRIP, ON	
<u>Cue:</u> Annunciator A1-3-7 is ON.		

Performance Steps	Standard	Grade
<p>16. Turn EMERG GOV OIL TRIP TEST switch to RESET position, AND verify the following:</p> <p>() NORMAL (green) light on</p> <p>() TRIP (red) light off</p> <p>() Annunciator A1-3-7, TURBINE EMERGENCY GOVERNOR TRIP, OFF</p> <p>Cue: Annunciator A1-3-7 is OFF.</p>	<p>Rotates EMERG GOV OIL TRIP TEST switch CW to RESET position, AND observes the following:</p> <p>() NORMAL (green) light on</p> <p>() TRIP (red) light off</p> <p>() Annunciator A1-3-7, TURBINE EMERGENCY GOVERNOR TRIP, OFF</p>	<p>Pass/Fail</p>
<p>17. Release EMERG GOV OIL TRIP TEST, switch spring return to neutral</p> <p>Note: This is a spring return switch which will return to neutral when step 16 above is performed</p>	<p>Ensures EMERG GOV OIL TRIP TEST switch has returned to neutral</p>	<p>Sat/Unsat</p>
<p>18. Turn EMERG OIL TRIP LOCKOUT switch to OFF</p>	<p>Rotates EMERG OIL TRIP LOCKOUT switch CCW to OFF</p>	<p>Pass/Fail</p>
<p>19. Verify LOCKOUT (yellow) light off (Emergency Governor Trip function back in service)</p>	<p>Observes LOCKOUT (yellow) light off</p>	<p>Sat/Unsat</p>

Terminating Cue: Generator removed from the Grid and Emergency Governor Trip Lockout Test complete

RECORD STOP TIME _____

Initial Conditions:

1. A shutdown is in progress
2. The Main Generator is at 90 MWE and ready to be removed from the grid

Initiating Cues:

“(Operator’s name), remove the Generator from the grid in accordance with N1-OP-31, Section G.2.0 and perform the Emergency Governor Trip with Lockout Test in accordance with N1-PM-V7, Section 8.1.”

G. SHUTDOWN PROCEDURE (Cont)

NOTE: The following section is performed when Turbine Overspeed Testing per N1-PM-V7, TURBINE TRIP TESTS, is performed.

2.0 Removing Generator from Grid with Turbine at 1800 RPM

2.1 Turn off Auto Reclosure for R925 and R915:

- R925 AUTO RECLOSURE off.....()
- R915 AUTO RECLOSURE off.....()

NOTE: The Pressure Regulator will open By-Pass valves as reactor steam flow exceeds required Turbine flow.

2.2 Bring Governor (speed/load changer) in control AND continue to lower generator load to 40-50 MWe()

2.3 Lower Megavars to zero()

NOTE: HPCI initiation and turbine trip will NOT occur.

2.4 Open R925 and R915.....()

2.5 Open SW 18()

2.6 Place the control switch for SW 18 in Pull-to-Lock()

2.7 Place VOLTAGE REG TRANSFER switch to OFF()

2.8 Place EXCITER switch to TRIP()

2.9 Perform Turbine Overspeed testing per N1-PM-V7()

3.0 Removing Generator from Grid with Turbine Trip

3.1 Turn off Auto Reclosure R925 and R915.....()

NOTES: 1. The Pressure Regulator will open By-Pass valves as reactor steam flow exceeds required Turbine flow.

2. GOVERNOR (speed/load changer) will not work from panel A unless sync key switch for either 915 or 925 breaker is ON.

3.2 Bring GOVERNOR (speed/load changer) in control AND continue to lower generator load to 40-50 MWe()

8.0 PROCEDURE

8.1 Exercising Emergency Governor Trip with Lockout
(Turbine in Service)

- NOTES:**
1. This section is normally performed when the Turbine Generator is Synchronized to the Grid. It may be performed with the Turbine at any speed greater than 1660 RPM.
 2. If the EMERG GOV OIL TRIP LOCKOUT switch is returned to OFF while the EMERG GOV OIL TRIP TEST switch is in TRIP or not RESET, THEN a turbine trip will occur.

8.1.1 Verify NORMAL (green) light on, above Turbine speed indicator (Panel 1B). _____

8.1.2 Step deleted. _____

8.1.3 Turn EMERG GOV OIL TRIP LOCKOUT switch to LOCKOUT. _____

8.1.4 Confirm LOCKOUT (yellow) light ON. _____

* * * * *

CAUTION

Failure of LOCKOUT (yellow) light to energize with EMERG GOV OIL TRIP LOCKOUT switch in LOCKOUT, indicates failure of the emergency governor trip lockout function.

* * * * *

8.1.5 Turn EMERG GOV OIL TRIP TEST switch to TRIP position, AND verify the following: _____

- () NORMAL (green) light off
- () TRIP (red) light on (Emergency Governor tripped)
- () Annunciator A1-3-7, TURBINE EMERGENCY GOVERNOR TRIP, ON

8.1.6 Turn EMERG GOV OIL TRIP TEST switch to RESET position, AND verify the following: _____

- () NORMAL (green) light on
- () TRIP (red) light off
- () Annunciator A1-3-7, TURBINE EMERGENCY GOVERNOR TRIP, OFF

Initials

- 8.1.7 Release EMERG GOV OIL TRIP TEST switch,
spring return to neutral.

NOTE: Failure to verify Normal (green) light ON
and Trip (red) light OFF prior to turning
the EMERG GOV OIL TRIP LOCKOUT switch
to OFF may result in a turbine trip.

- 8.1.8 Turn EMERG OIL TRIP LOCKOUT switch to OFF.

- 8.1.9 Step deleted.

- 8.1.10 Verify LOCKOUT (yellow) light off
(Emergency Governor Trip function, back in service).

- 8.2 Testing Emergency Governor Trip with Lockout (Turbine not in
Service/Startup)

NOTES:

1. This section is normally performed
when the Turbine Generator is being
brought up to speed prior to reaching
1600 RPM.
2. If the EMERG GOV OIL TRIP LOCKOUT
switch is returned to OFF while the
EMERG GOV OIL TRIP TEST switch is in
TRIP or not RESET with the Turbine
speed greater than 1650 RPM, THEN a
turbine trip will occur.

- 8.2.1 Confirm the following:

- () Annunciator F3-4-6, FIRST STAGE BOWL PRESSURE LOW, ON
- () Hood spray in service (or available) to prevent hood
high temperature Turbine Trip (225°F)
- () Turbine Oil Temperature greater than 100 °F
- () NORMAL (green) light on, above Turbine speed
indicator (Panel B1).

- 8.2.2 Step deleted.

- 8.2.3 Turn EMERG GOV OIL TRIP LOCKOUT switch to LOCKOUT.

- 8.2.4 Confirm LOCKOUT (yellow) light ON.

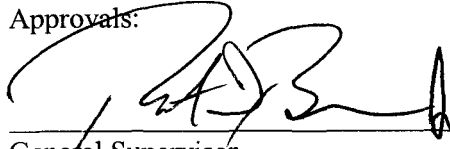
NRC JPM S-8
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Alternate RPV Blowdown Through the Emergency
Condenser Vents to Torus

Revision: NRC 2008

Task Number: N1-EOP-8-01001

Approvals:

 / 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security / _____
General Supervisor Date
Operations (Designee)

N/A – Exam Security / _____
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: X Perform _____ Simulate

Evaluation Location: _____ Plant X Simulator

Expected Completion Time: 15 minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Simulator

Simulator Set-up (if required):

1. Initialize simulator to IC 184
2. Verify the following malfunctions are inserted:
 - ☐ AD07B, ERV112 FAILS SHUT
 - ☐ AD07C, ERV113 FAILS SHUT
 - ☐ AD07D, ERV121 FAILS SHUT
 - ☐ AD07E, ERV122 FAILS SHUT
 - ☐ AD07F, ERV123 FAILS SHUT
 - ☐ MS03A, ONE MSIV FAILS CLOSED (VALVE 122)
 - ☐ MS03B, ONE MSIV FAILS CLOSED (VALVE 112)
3. Verify RPV pressure is at least 72 psi above torus pressure
4. Verify torus water level is above 8.5 feet

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. During Evaluated JPM:
 - Self verification shall be demonstrated.
2. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. N1-EOP-8
2. N1-EOP-1, Attachment 14
3. K/A 207000, A1.05 (RO 4.0, SRO 4.2), A4.05 (RO 3.5, SRO 3.7), A4.07 (RO 4.2, SRO 4.3)

Tools and Equipment:

1. MSIV EOP Jumpers

Task Standard: Emergency Depressurize the RPV through the Emergency Condenser Vents to the Torus

Initial Conditions:

1. The reactor has scrammed
2. MSIVs are closed
3. RPV blowdown is required per Emergency Operating Procedures
4. Instructor to ask operator for any questions

Initiating cue:

“(Operator’s name), commencing an RPV Blowdown. Initiate Emergency Condensers and open 3 ERVs.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used (GAP-OPS-01)	Sat/Unsat

RECORD START TIME _____

Note: It is not necessary to reference N1-EOP-8 since this action is normally directed by the CRS

2. Initiate Emergency Condensers as follows:

a. Place 39-05, EMERG CNDSR RET ISOLATION VALVE 11 control switch to OPEN	Rotates 39-05, EMERG CNDSR RET ISOLATION VALVE 11 control switch CW to OPEN	Pass/Fail
b. Place 39-06, EMERG CNDSR RET ISOLATION VALVE 12 control switch to OPEN	Rotates 39-06, EMERG CNDSR RET ISOLATION VALVE 12 control switch CW to OPEN	Pass/Fail

3. Opens ERV 111

Note: All other ERVs will fail to open when attempted

Rotates ERV 111 control switch CW to OPEN observes green and blue lights off, both red lights on	Pass/Fail
--	------------------

4. Attempts to open ERVs 112, 113, 121, 122, and 123

Rotates control switches for ERVs 112, 113, 121, 122, and 123 CW to OPEN, observes green and blue lights off, both red lights off	Sat/Unsat
---	-----------

Performance Steps	Standard	Grade
5. Reports only ERV 111 is open Role Play: Acknowledge report and then direct the candidate to depressurize the RPV using the Emergency Condenser vents to the torus per N1-EOP-1, Attachment 14	Proper communications used (GAP-OPS-O1)	Sat/Unsat
6. Obtain a copy of the reference procedure and review/utilize the correct section	N1-EOP-1 obtained Attachment 14 referenced	Sat/Unsat
7. Verify the Bypass MSIV Isolation jumpers at EOP ISOLATION BYPASS JUMPER SUBPANEL installed	Inserts EOP jumpers 15, 16, 22, 23	Pass/Fail
8. Depressurize the RPV using EC Vents to Torus	Proceeds to Step 2.4, EC Vents to Torus	Sat/Unsat
9. Confirm Torus level is above 8.5 feet	Observes torus level indicator is >8.5 feet	Sat/Unsat
10. Verify open the following Emergency Condenser Vents to Torus at Panel K:		
a. 05-05, EC VENT TO TORUS BV 11	Rotates 05-05 control switch CW to OPEN, observes red light on, green light off	Pass/Fail
b. 05-07, EC VENT TO TORUS BV 12	Rotates 05-07 control switch CW to OPEN, observes red light on, green light off	Pass/Fail
c. 05-11, EMERG COND VENT ISOLATION VALVE 112	Observes 05-11 red light on and green light off	Sat/Unsat
d. 05-01R, EMERG COND VENT ISOLATION VALVE 111	Observes 05-01R red light on and green light off	Sat/Unsat
e. 05-04R, EMERG COND VENT ISOLATION VALVE 121	Observes 05-04R red light on and green light off	Sat/Unsat
f. 05-12, EMERG COND VENT ISOLATION VALVE 122	Observes 05-12 red light on and green light off	Sat/Unsat
11. Reports that the reactor is being depressurized using the Emergency Condenser vents to the torus	Proper communications used (GAP-OPS-O1)	Sat/Unsat

Role Play: Acknowledge report

Terminating Cue: The RPV is depressurized using the Emergency Condenser Vents to the Torus.

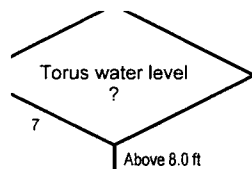
RECORD STOP TIME _____

Initial Conditions:

1. The reactor has scrammed
2. MSIVs are closed
3. RPV blowdown is required per Emergency Operating Procedures

Initiating cue:

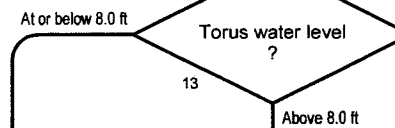
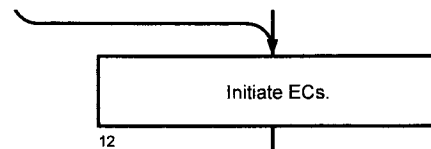
“(Operator’s name), commencing an RPV Blowdown. Initiate Emergency Condensers and open 3 ERVs.”



RVs.
 .o – Lo/Lo Rosemounts may be
 eliable following rapid
 ressurization below 500 psig.
 to exceed 100°F/hr cooldown.

TO LEVEL CONTROL:

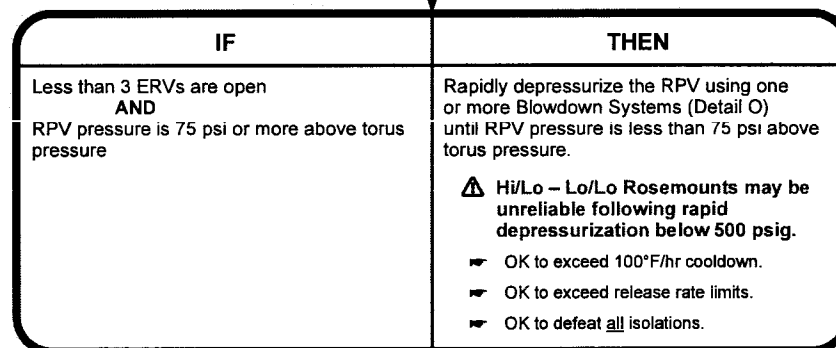
r EOP-3 at @ while
 nuing here.



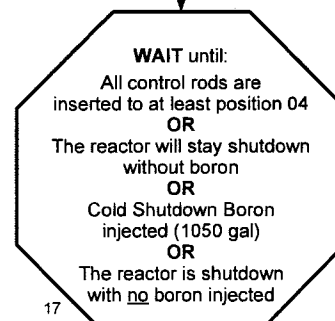
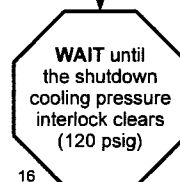
Open 3 ERVs.

⚠ Hi/Lo – Lo/Lo Rosemounts may be
 unreliable following rapid
 depressurization below 500 psig.
 ➤ OK to exceed 100°F/hr cooldown.

14



15



Blowdown Systems

- ERVs...only if torus water level is above 8.0 ft.
 ➤ OK to use N1-DRP-OPS-001, Section 7.10.1.
- TBVs (EOP-1 Att 1)
- ECs
- Main steam line drains (EOP-1 Att 1)
- Reactor head vent valves (EOP-1 Att 22)
- EC vents (EOP-1 Att 14)
- SJAEs (EOP-1 Att 1)
- Offgas mixing jet (EOP-1 Att 21)
- RWCUs, recirculation mode (EOP-1 Att 9)
 ➤ Bypass demins.
- RWCUs, reject mode...only if no boron injected or the
 reactor will stay shutdown
 without boron (EOP-1 Att 8).

ATTACHMENT 14
RPV Depressurization thru EC Vents

Page 1 of 4

1.0 PURPOSE

Provide alternate depressurization path for RPV.

2.0 TOOLS AND MATERIALS

<u>TOOL/MATERIAL</u>	<u>QTY</u>	<u>LOCATION</u>
Jumpers	4	EOP TOOL BOX 4, Control Room

3.0 PROCEDURE



- 3.1 WHEN directed by SM or CRS, VERIFY the Bypass MSIV ISOLATION jumpers at EOP ISOLATION BYPASS JUMPER SUBPANEL installed *(inside Panel N, between 1N1A and 1N1B)*:

	<u>JUMPER LABEL</u>	<u>INSTALLED</u>
• 15	MSIV ISOLATION BYPASS RELAY 11K19A TO RELAY 11K73	()
• 16	MSIV ISOLATION BYPASS RELAY 11K20A TO RELAY 11K74	()
• 22	MSIV ISOLATION BYPASS RELAY 12K19A TO RELAY 12K73	()
• 23	MSIV ISOLATION BYPASS RELAY 12K20A TO RELAY 12K74	()

- 3.2 Depressurize the RPV by performing one of the following:

- Subsection 3.3, EC Vents to Main Condenser..... ()
- Subsection 3.4, EC Vents to Torus..... ()

ATTACHMENT 14
RPV Depressurization thru EC Vents

Page 2 of 4

3.3 EC Vents to Main Condenser

3.3.1 Open Main Turbine Bypass Valves, Panel A with BOJM..... ()

3.3.2 IF Main Turbine Bypass Valves can NOT be opened, open
02-03 DRAIN VALVE TO CONDENSER, at *Panel N*..... ()

3.3.3 Verify open the following Emergency Condenser Vents at *Panel K*:

- 05-02, EMERG COND VENT TO MN STM ISOLATION VALVE 11..... ()
- 05-11, EMERG COND VENT ISOLATION VALVE 112..... ()
- 05-01R, EMERG COND VENT ISOLATION VALVE 111 ()
- 05-03, EMERG COND VENT TO MN STM ISOLATION VALVE 12..... ()
- 05-04R, EMERG COND VENT ISOLATION VALVE 121 ()
- 05-12, EMERG COND VENT ISOLATION VALVE 12..... ()

3.4 EC Vents to Torus

CAUTION

Torus Water Level must be above 8.5 feet before opening Emergency Condenser Vents to Torus.

3.4.1 Confirm Torus level above 8.5 feet..... ()

3.4.2 Verify open the following Emergency Condenser Vents to Torus at *Panel K*:

- 05-05, EC VENT TO TORUS BV 11..... ()
- 05-07, EC VENT TO TORUS BV 12..... ()
- 05-11, EMERG COND VENT ISOLATION VALVE 112..... ()
- 05-01R, EMERG COND VENT ISOLATION VALVE 111 ()
- 05-04R, EMERG COND VENT ISOLATION VALVE 121 ()
- 05-12, EMERG COND VENT ISOLATION VALVE 122..... ()

ATTACHMENT 14
RPV Depressurization thru EC Vents

Page 3 of 4

4.0 RESTORATION

INITIALS/DATE

NOTE: This section is not performed until specifically directed by the SM.

4.1 WHEN EC Vents to Main Condenser are no longer required for RPV Depressurization, perform the following:

4.1.1 Verify closed Main Turbine Bypass Valves (*Panel A*)

_____/_____
I.V.

4.1.2 Verify closed 02-03 DRAIN VALVE TO CONDENSER (*Panel N*)

_____/_____
I.V.

4.1.3 Remove jumpers installed at the EOP ISOLATION BYPASS JUMPER SUBPANEL (*inside Panel N, between 1N1A and 1N1B*):

JUMPER LABEL

- 15 MSIV ISOLATION BYPASS
RELAY 11K19A TO RELAY 11K73

_____/_____
I.V.

- 16 MSIV ISOLATION BYPASS
RELAY 11K20A TO RELAY 11K74

_____/_____
I.V.

- 22 MSIV ISOLATION BYPASS
RELAY 12K19A TO RELAY 12K73

_____/_____
I.V.

- 23 MSIV ISOLATION BYPASS
RELAY 12K20A TO RELAY 12K74

_____/_____
I.V.

ATTACHMENT 14
RPV Depressurization thru EC Vents

Page 4 of 4

4.2 WHEN EC Vents to Torus are no longer required for RPV Depressurization, verify closed:

- 05-05, EC VENT TO TORUS BV 11

_____/_____
I.V.

_____/_____
I.V.

- 05-07, EC VENT TO TORUS BV 12

_____/_____
I.V.

_____/_____
I.V.

4.3 SM verify that restoration is complete. Record comments in Remarks below:

Remarks: _____

_____/_____/_____
SM (Signature) Date Time

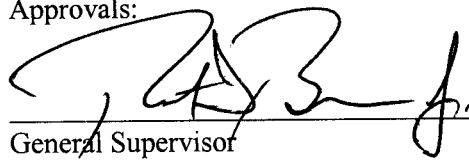
NRC JPM P-1
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Air Start the Diesel Fire Pump

Revision: NRC 2008

Task Number: N1-286000-04039

Approvals:

 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security /
General Supervisor Date
Operations (Designee)

N/A – Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: _____ Perform X Simulate

Evaluation Location: X Plant _____ Simulator

Expected Completion Time: 15 minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Screen House

Simulator Set-up (if required):

None

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas as **Pass/Fail**. During Evaluated JPM:
 - Self verification shall be demonstrated.
2. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123, 286000, A3.01 (RO 3.4, SRO 3.4)
2. N1-OP-21A

Tools and Equipment:

None

Task Standard: The Diesel Fire Pump is running

Initial Conditions:

1. The plant is shutdown
2. A total loss of DC power has occurred
3. Instructor to ask operator for any questions

Initiating Cues:

“(Operator’s name), start the Diesel Fire Pump per N1-OP-21A, Section H.6.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure <u>Cue:</u> Step 6.1 is complete	N1-OP-21A obtained Precautions & limitations reviewed Section H.6 referenced	Sat/Unsat
3. Place Diesel Fire Pump Control Switch to OFF	Local Control Switch rotated CW to OFF in Diesel Fire Pump Room	Sat/Unsat
4. Manually open 100-1211, Solenoid Operated Inlet Valve, to the Woodward Governor	Manually opens 100-1211 by rotating override lever CW	Pass/Fail
5. Manually close 100-1212, Outlet Blocking Valve, from the Woodward Governor	Manually closes 100-1212 by rotating handwheel CW	Pass/Fail
6. Manually open 100-1213, Pump Lubrication Solenoid Valve	Manually opens 100-1213 by rotating override lever CW	Pass/Fail
7. Open 100.4-04 (IA-222) OR 100.4-03 (IA-223), Starting Air Bypass valves to provide starting air supply	IA-222 or IA-223 opened by turning lever on valve such that the operating lever is in-line with the piping	Pass/Fail
<u>Cue:</u> Engine started and is running		

<u>Performance Steps</u>	<u>Standard</u>	<u>Grade</u>
8. Upon successful Diesel Fire Pump engine start, close 100.4-04 (IA-222) OR 100.4-03 (IA-223)	IA-222 or IA-223 (whichever one was opened in step 7 above) is closed by turning lever on valve until the operating lever is perpendicular to the piping	Sat/Unsat
9. Notifies Control Room that the Diesel Fire Pump is running	Proper communications used (GAP-OPS-01)	Sat/Unsat

Role Play: Acknowledge report

Terminating Cue: Diesel Fire Pump is running

RECORD STOP TIME _____

Initial Conditions:

1. The plant is shutdown
2. A total loss of DC power has occurred

Initiating Cues:

“(Operator’s name), start the Diesel Fire Pump per N1-OP-21A, Section H.6.”

H. OFF-NORMAL PROCEDURES (Cont)6.0 Diesel Fire Pump Start With No Control Power

NOTE: Due to the unavailability of DC Power, no automatic Diesel Fire Pump Engine Protection is provided.

- 6.1 IF available, station a qualified person at Diesel Fire Pump to monitor engine condition during operation in this mode. _____
- 6.2 Place Diesel Fire Pump Control Switch to OFF. _____
- 6.3 Manually open 100-1211, Solenoid Operated Inlet Valve, to the Woodward Governor. _____
- 6.4 Manually close 100-1212, Outlet Blocking Valve, from Woodward Governor. _____
- 6.5 Manually open 100-1213, Pump Lubrication Solenoid Valve. _____
- 6.6 Open 100.4-04 (IA-222) OR 100.4-03 (IA-223), Starting Air Bypass valves to provide starting air supply. _____
- 6.7 Upon successful Diesel Fire Pump engine start, close 100.4-04 (IA-222), OR 100.4-03 (IA-223). _____
- 6.8 WHEN restoration of control power and conditions permit stopping Diesel Fire Pump, proceed as follows:
- 6.8.1 Open 100-1212, Outlet Blocking Valve()
- 6.8.2 Close 100-1211, Solenoid Operated Inlet Valve()
- 6.8.3 Close 100-1213, Pump Lubrication Solenoid Valve()
- 6.8.4 Confirm at least 85 psig in starting air tank 11 AND 12, as indicated on local pressure indicators()
- 6.8.5 Place Diesel Fire Pump Control Switch in AUTO()
- 6.8.6 As soon as practical, perform N1-PM-W9, Fire Protection System - Weekly Operation Of Fire Pumps Sections 6.2 AND 6.3, Diesel Fire Pump automatic start test() _____

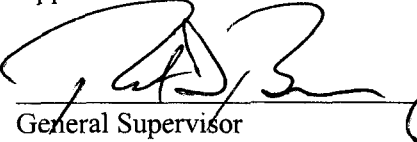
NRC JPM P-2
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Perform Initiation of ECs from Remote Shutdown
Panel 12 (Alternate Path)

Revision: NRC 2008

Task Number: N1-296000-01009

Approvals:

 / 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security /
General Supervisor Date
Operations (Designee)

N/A – Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: _____ Perform _____ X Simulate

Evaluation Location: X Plant _____ Simulator

Expected Completion Time: 15 minutes Time Critical Task: No Alternate Path Task: Yes

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Turbine Building Elevation 261'

Simulator Set-up (if required):

None

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
 - Self verification shall be demonstrated.
3. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. NUREG 1123 KA 295016, AA1.09, RO 4.0, SRO 4.0
2. N1-SOP-21.2

Tools and Equipment:

1. VA-1 Key

Task Standard: Emergency Cooling Loop 11 placed in service from Remote Shutdown Panel 11 and shell side water level controlled in manual.

Initial Conditions:

1. Control Room evacuation has occurred
2. All control room actions were completed
3. All control rods are in
4. RPV pressure is 900 psig and slowly rising
5. RPV level is 72" and stable
6. The Remote Shutdown Keys have been obtained
7. You are the Chief Shift Operator
8. Offsite power is available
9. FW and CRD are available
10. Other operators are performing the manual vessel isolation and removing ERV fuses
11. Instructor to ask operator for any questions

Initiating Cues:

"(Operator's name), place Emergency Cooling Loop 11 in service in accordance with N1-SOP-21.2."

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator acknowledge repeat back providing correction if necessary</i>	Proper communications used (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-SOP-21.2 obtained Section B is reviewed	Sat/Unsat
3. Go to Remote Shutdown Panel #11	Proceed to RSP 11, TB 250' South	Sat/Unsat
Cue: EC System has NOT isolated		
4. Place the Channel 11 CONTROL TRANSFER keylock switch in EMERG position to transfer control to RSP	Rotate control switch CW to the emergency position	Pass/Fail
5. Verify open 39-07 and 39-09	Observe red lights on, green lights off	Sat/Unsat
Cue: 39-07 and 39-09 are open		
6. Control RPV cooldown by cycling open and closed 39-05, EMERGENCY CONDENSER COND RTN IV 11	Rotate control switch for valve 39-05 CW to the open position, observe red light energized, green light extinguished	Pass/Fail
Cue: 39-05 is open, Reactor pressure is 900 psig and slowly lowering, RPV level is 72 inches and stable		

Performance Steps	Standard	Grade
<p>Note: The following cue indicates that AUTO shell level control has failed</p> <p>Cue: If the Candidate references EC shell water level indicator, inform them that EC shell water level is 5.5' and slowly lowering</p>		
7. Place EC 111/112 Level Control Transfer Switch to Local	Rotate control switch CW to the Local position	Pass/Fail
8. Verify AUTO control by observing "A" on status panel	Observe "A" illuminated on status panel	Sat/Unsat
<p>Cue: EC shell water level is 5.0' and slowly lowering</p>		
9. Depress A/M key pad	Manual mode selected by depressing the A/M key pad	Pass/Fail
10. Verify M is displayed	Observe "M" is illuminated on status panel	Sat/Unsat
<p>Cue: M is illuminated</p>		
11. Control level by depressing arrows on key pad	Level is raised in the EC Condenser Shell by depressing the key pad arrows	Pass/Fail
<p>Cue: EC Condenser Shell is 6.4' and stable, Reactor pressure is 850 psig and slowly lowering</p>		
12. Report that #11 EC Condenser in service, EC shell level control is in Manual	Proper communications used (GAP-OPS-01)	Sat/Unsat

Terminating Cue: **Emergency Cooling Loop 11 placed in service in accordance with N1-SOP-21.2, and EC Shell Level controlled Manual**

RECORD STOP TIME _____

Initial Conditions:

1. Control Room evacuation has occurred
2. All control room actions were completed
3. All control rods are in
4. RPV pressure is 900 psig and slowly rising
5. RPV level is 72" and stable
6. The Remote Shutdown Keys have been obtained
7. You are the Chief Shift Operator
8. Offsite power is available
9. FW and CRD are available
10. Other operators are performing the manual vessel isolation and removing ERV fuses

Initiating Cues:

“(Operator’s name), place Emergency Cooling Loop 11 in service in accordance with N1-SOP-21.2.”

N1-SOP-21.2 - CONTROL ROOM EVACUATION

EVENT DESCRIPTION

A fire has resulted in Control Room evacuation.

WHILE EXECUTING THIS PROCEDURE:

IF	THEN
Normal instrumentation is off-scale <u>OR</u> unavailable.	Refer to N1-SOP-29 for alternate instrumentation.
The EC at the RSP is <u>NOT</u> operating correctly.	Verify STM IVs closed <u>AND</u> relocate to the other RSP.
Cooldown rate exceeds 100°F/hr.	Remove 11 and/or 12 EC from service to reduce cooldown rate.
Plant experiences Station Blackout	Perform Battery Load Shedding actions per N1-SOP-21.2, Attachment 3, within 15 Minutes

1. Place Reactor Mode Switch in SHUTDOWN
2. Verify All Control Rods inserted
3. Place both VESSEL ISOLATION switches to isolate AND verify all MSIVs close.

1. IF time permits, Verify the following
 - House service loads transfer
 - Turbine/Generator trip
 - HPCI Initiation
 - FW Pump 13 clutch disengaged
2. IF time permits, Sound the station alarm and announce Control Room evacuation
3. Obtain two sets of RSP keys (VA-1, GE-75, PA-235) AND obtain radios
4. Evacuate Control Room through East-West corridor, south side of Control Room

Perform Concurrently

Perform SM/STA actions at (this page) **A**

Perform CRS/CSO actions at (Page 3) **B**

Perform Control Room E actions at (Page 4) **C**

Perform In-Plant E/NAOC actions at (Page 5) **D**

SM/STA

Proceed to TSC AND perform the following:

- Duties of Emergency Director UNTIL relieved.
- Start Emergency Notifications.
- Direct Communications Aide to report to TSC.
- Notify On-call Supervisor of plant status.
- Contact the Unit 2 Control Room to provide Communication Aide per EPIP-EPP-18
- Review EPIP-EPP-01 for classification of an emergency (see EAL 7.2.2 & 7.2.4)
- Notify On-call Supervisor of plant status
- Provide overall direction, delegating specific responsibilities to CRS/STA as conditions warrant.
- Evaluate consequences of a radiological emergency as it pertains to nuclear safety and overall operation of the plant.
- Evaluate use of Damage Control Teams to minimize, control and terminate emergency condition.
- Direct Damage Repair Coordinator (DRC) to determine effect on Cold Shutdown AND Vessel inventory makeup capability (C1) per N1-DRP-OPS-001, N1-DRP-GEN-004 AND EPIP-EPP-22.

WHEN

Relieved as the Emergency Director,

THEN

1. Monitor progress of Damage Repair Teams.
2. Maintain listing of abnormal operating requirements as DRP(s) are completed.

WAIT
UNTIL DRC
reports Cold
Shutdown Train
available.

Provide direction to available operations/repair team personnel to achieve Vessel inventory makeup and Cold Shutdown.

A END

NINE MILE POINT NUCLEAR STATION UNIT 1
SPECIAL OPERATING PROCEDURE

PROCEDURE
NUMBER N1-SOP-21.2

PAGE
NUMBER 02

REVISION
NUMBER 01

N1-SOP-21.2 - CRS/CSO



IF	THEN
Reactor was NOT scrammed prior to leaving the Control Room.	<ol style="list-style-type: none"> 1. Proceed to RSP 12 on TB 277 AND place MG 141 switch in TRIP position. 2. Proceed to RSP 11 on TB 250 AND place MG 131 switch in TRIP position. 3. Confirm CONTROL RODS IN white light lit on RSP 11 OR 12. 4. Inform SM Reactor has been scrammed.

Direct RO/NOAC to perform Manual Vessel Isolation per N1-SOP-21.2. Alt 1

Direct RO/NOAC to remove ERV fuses per N1-SOP-21.2. Alt 2 within 1 hour of event

<ol style="list-style-type: none"> 1. Restore and maintain RPV water level between +53 in. and +95 in. using Condensate/FW and/or CRD. 2. Keep SM informed of RPV level and pressure. 	
IF	THEN
Level can NOT be maintained +53 to 95 inches.	Maintain level above +5 inches.
Level can NOT be maintained above +5 inches.	Lineup alternate low pressure systems: <ul style="list-style-type: none"> • Core Spray • Firewater to Feedwater

RSP 11 Using RSP 11 or 12? RSP 12

IF	THEN
EC System isolates.	Place EMERGENCY COOLING ISOLATION BYPASS keylock switch in BYPASS per CRS direction.
39-05 can NOT be closed.	Control RPV cooldown as follows: <ol style="list-style-type: none"> 1. Verify open 39-07, EC STM ISOLATION VALVE 112. 2. Cycle open and closed 39-09, EC STM ISOLATION VALVE 111.
RPV level can NOT be maintained on scale (upscale or downscale)	<ol style="list-style-type: none"> 1. Verify low pressure systems lined up 2. Reinstall ERV fuses 3. Direct operators to maintain RPV level between +53 and 95 in.: <ul style="list-style-type: none"> • Core Spray (local pump circuit breaker cycling may be required) • Firewater to Feedwater

CAUTION: Opening 39-07 and 39-09 too rapidly may cause waterhammer. Using PULL-TO-STOP will control valve motion.

Commence a normal RPV cooldown (<100°F/hr) with EC 11:

1. Place CHANNEL 11 CONTROL TRANSFER keylock switch in EMERG position to transfer control to RSP.
2. Verify open 39-07 **AND** 39-09.
3. Control RPV cooldown by cycling open and closed 39-05, EMERGENCY CONDENSER COND RTN IV 11.

IF	THEN
RPV level can NOT be maintained on scale (upscale or downscale).	<ol style="list-style-type: none"> 1. Verify low pressure systems lined up. 2. Reinstall ERV fuses. 3. Direct operators to maintain RPV level between +53 and 95 in.: <ul style="list-style-type: none"> • Core Spray (local pump circuit breaker cycling may be required) • Firewater to Feedwater

Control EC CONDENSER SHELL level between 6' and 7':

1. Place EC 111/112 LEVEL CONTROL TRANSFER switch to LOCAL.
2. Verify AUTO control by observing "A" on status panel.

IF	THEN
Automatic control fails.	<ol style="list-style-type: none"> 1. Depress A/M keypad. 2. Verify M is displayed. 3. Control level by depressing ∇ \blacktriangle key pads

WAIT
UNTIL DRP(s)
are complete
THEN commence
Cold Shutdown as
directed by
SM.

IF	THEN
EC System isolates.	Place EMERGENCY COOLING ISOLATION BYPASS keylock switch in BYPASS per CRS direction.
39-06 can NOT be closed.	Control RPV cooldown as follows: <ol style="list-style-type: none"> 1. Verify open 39-08, EC STM ISOLATION VALVE 122. 2. Cycle open and closed 39-10, EC STM ISOLATION VALVE 121.
RPV level can NOT be maintained on scale (upscale or downscale)	<ol style="list-style-type: none"> 1. Verify low pressure systems lined up. 2. Reinstall ERV fuses 3. Direct operators to maintain RPV level between +53 and 95 in.: <ul style="list-style-type: none"> • Core Spray (local pump circuit breaker cycling may be required) • Firewater to Feedwater

CAUTION: Opening 39-08 and 39-10 too rapidly may cause waterhammer. Using PULL-TO-STOP will control valve motion.

Commence a normal RPV cooldown (<100°F/hr) with EC 12:

1. Place CHANNEL 12 CONTROL TRANSFER keylock switch in EMERG position to transfer control to RSP.
2. Verify open 39-08 **AND** 39-10.
3. Control RPV cooldown by cycling open and closed 39-06, EMERGENCY CONDENSER COND RTN IV 12.

IF	THEN
RPV level can NOT be maintained on scale (upscale or downscale).	<ol style="list-style-type: none"> 1. Verify low pressure systems lined up. 2. Reinstall ERV fuses. 3. Direct operators to maintain RPV level between +53 and 95 in.: <ul style="list-style-type: none"> • Core Spray (local pump circuit breaker cycling may be required) • Firewater to Feedwater

Control EC CONDENSER SHELL level between 6' and 7':

1. Place EC 121/122 LEVEL CONTROL TRANSFER switch to LOCAL.
2. Verify AUTO control by observing "A" on status panel.

IF	THEN
Automatic control fails.	<ol style="list-style-type: none"> 1. Depress A/M keypad. 2. Verify M is displayed. 3. Control level by depressing ∇ \blacktriangle key pads.

WAIT
UNTIL DRP(s)
are complete
THEN commence
Cold Shutdown as
directed by
SM.

END

NINE MILE POINT NUCLEAR STATION UNIT 1
SPECIAL OPERATING PROCEDURE

PROCEDURE NUMBER	PAGE NUMBER	REVISION NUMBER
N1-SOP-21.2	03	01

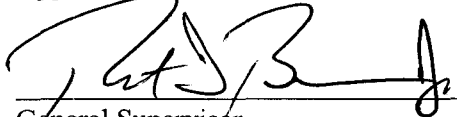
NRC JPM P-3
Constellation Energy Group
NINE MILE POINT UNIT 1
OPERATOR JOB PERFORMANCE MEASURE

Title: Place UPS 162A in Standby from Shutdown Condition,
Transfer to Supply RPS 11

Revision: NRC 2008

Task Number: N1-212000-04001, N1-212000-04002

Approvals:

 8/14/2008
General Supervisor Date
Operations Training (Designee)

N/A – Exam Security /
General Supervisor Date
Operations (Designee)

N/A – Exam Security /
Configuration Control Date

Performer: _____ (RO/SRO)

Trainer/Evaluator: _____

Evaluation Method: _____ Perform X Simulate

Evaluation Location: X Plant _____ Simulator

Expected Completion Time: 30 Minutes Time Critical Task: No Alternate Path Task: No

Start Time: _____ Stop Time: _____ Completion Time: _____

JPM Overall Rating: Pass Fail

NOTE: A JPM overall rating of fail shall be given if any critical step is graded as fail. Any grade of unsat or individual competency area unsat requires a comment.

Comments:

Evaluators Signature: _____

Date: _____

Recommended Start Location: (Completion time based on the start location)

NMP Unit 1 Turbine Building Elevation 261'

Simulator Set-up (if required):

None

Directions to the Instructor/Evaluator:

Prior to performance of this JPM, obtain SM / CSO general permission to open equipment cabinets and inspection covers. If opening the equipment cabinet or inspection cover will affect Tech. Spec. Operability, operational status, or the effects are unknown, obtain specific SM / CSO permission.

Directions to Operators:

Read Before Every JPM Performance:

For the performance of this JPM, I will function as the SM, CSO, and Auxiliary Operators. Prior to providing direction to perform this task, I will provide you with the initial conditions and answer any questions. During task performance, I will identify the steps to be simulated, or discuss and provide cues as necessary.

With the exception of accessing panels, NO plant equipment will be physically manipulated. Repositioning of devices will be simulated by discussion and acknowledged by my cues.

Read Before Each Evaluated JPM Performance:

This evaluated JPM is a measure of your ability to perform this task independently. The Control Room Supervisor has determined that a verifier is not available and that additional / concurrent verification will not be provided; therefore, it should not be requested.

Read Before Each Training JPM Performance:

During this Training JPM, applicable methods of verification are expected to be used. Therefore, either another individual or I will act as the independent/peer verifier.

Notes to Instructor / Evaluator:

1. Critical steps are identified in grading areas as **Pass/Fail**. All steps are sequenced critical unless denoted by a "•".
2. During Evaluated JPM:
 - Self verification shall be demonstrated.
3. During Training JPM:
 - Self verification shall be demonstrated.
 - No other verification shall be demonstrated.

References:

1. N1-OP-40
2. NUREG 1123 K/A 212000 A1.04 (RO 2.8, SRO 3.0), A1.05 (RO 2.6, SRO 2.7)

Tools and Equipment:

None

Task Standard: RPS Bus 11 is supplied from UPS 162A.

Initial Conditions:

1. UPS 162B is supplying RPS Bus 11
2. Control Switch and Electrical Lineups are complete per N1-OP-40 Attachments 1 and 2
3. The Electrical Safety requirements for the upcoming job have been determined to be as follows:
 - Leather gloves
 - Safety glasses or goggles
 - 100% cotton long sleeve shirt and pants, OR 100% cotton short sleeve shirt and pants under flame-resistant lab coat
4. Instructor to ask for any questions

Initiating Cues:

“(Operator’s name), place UPS 162A in standby in accordance with N1-OP-40, section E.1, and then transfer RPS Bus 11 supply from UPS 162B to UPS 162A in accordance with N1-OP-40, section F.2.”

Performance Steps	Standard	Grade
1. Provide repeat back of initiating cue <i>Evaluator Acknowledge repeat back providing correction if necessary</i>	Proper communications used (GAP-OPS-01)	Sat/Unsat
RECORD START TIME _____		
2. Obtain a copy of the reference procedure and review/utilize the correct section of the procedure	N1-OP-40 obtained Precautions & limitations reviewed Section E.1 and F.2 referenced	Sat/Unsat
3. Verify Control Switch Lineup performed per Attachment 1 and Electrical Lineup performed per Attachment 2	Determines Lineups complete per initial conditions	Sat/Unsat
4. Verify open the following breakers, at UPS to be started:	Verifies open the following breakers at UPS 162A:	Sat/Unsat
<ul style="list-style-type: none"> • B401, RECTIFIER INPUT BKR • B402, RECTIFIER OUTPUT BKR • B1, INVERTER INPUT BKR • B2, INVERTER OUTPUT BKR • B201, STATIC SW INPUT BKR 	<ul style="list-style-type: none"> • B401, RECTIFIER INPUT BKR • B402, RECTIFIER OUTPUT BKR • B1, INVERTER INPUT BKR • B2, INVERTER OUTPUT BKR • B201, STATIC SW INPUT BKR 	
5. Perform the following at UPS control cabinets:	Verifies closed the following at UPS 162 control cabinet:	Pass/Fail
a. Close ACISW, AC INPUT DISC SW b. Close BPSW, BYPASS DISC SW c. Close DCISW, DC INPUT DISC SW	a. Close ACISW, AC INPUT DISC SW b. Close BPSW, BYPASS DISC SW c. Close DCISW, DC INPUT DISC SW	

Performance Steps	Standard	Grade
<p>6. Confirm Bypass Transformer PRIMARY VOLTAGE V801 indicates approximately 600 VAC</p> <p>Cue: Voltage indicates 600 VAC</p>	Observes Bypass Transformer PRIMARY VOLTAGE V801 indicates approximately 600 VAC	Sat/Unsat
<p>7. Confirm BYPASS AC INPUT V201 indicates 118-126 VAC</p> <p>Cue: AC Input indicates 121 VAC</p>	Observes BYPASS AC INPUT V201 indicates 118-126 VAC	Sat/Unsat
<p>8. Close B1, INVERTER INPUT BKR as follows:</p> <p>a. Depress PRE-CHARGE PUSHBUTTON, UNTIL PRECHARGE light (P7) becomes energized</p> <p>Cue: P7 light is energized</p> <p>b. WHEN PRE-CHARGE light is energized, close B1 AND confirm the following:</p> <ul style="list-style-type: none"> BATTERY DC INPUT V1 133-135 VDC INVERTER OUTPUT V2 118-126 VAC INVERTER FREQUENCY E1 59.5-60.5 Hz <p>Cue: Battery DC Input V1 is 134 VDC Inverter Output V2 is 120 VAC Inverter Frequency E1 is 60 Hz</p>	<p>Depresses PRE-CHARGE PUSHBUTTON, UNTIL PRECHARGE light (P7) becomes energized</p> <p>Closes B1 AND observes the following:</p> <ul style="list-style-type: none"> BATTERY DC INPUT V1 133-135 VDC INVERTER OUTPUT V2 118-126 VAC INVERTER FREQUENCY E1 59.5-60.5 Hz 	<p>Pass/Fail</p> <p>Pass/Fail</p> <p>Sat/Unsat</p> <p>Sat/Unsat</p> <p>Sat/Unsat</p>
<p>9. Close B401, RECTIFIER INPUT BKR and confirm the following:</p> <ul style="list-style-type: none"> RECTIFIER INPUT V401, V402, V403 approximately 600 VAC RECTIFIER OUTPUT V404 137-145 VDC <p>Cue: Rectifier Input V401,V402, V403 indicate 600 VAC Rectifier Output V404 is 140 VDC</p>	<p>Closes B401, RECTIFIER INPUT BKR and confirms the following:</p> <ul style="list-style-type: none"> RECTIFIER INPUT V401, V402, V403 approximately 600 VAC RECTIFIER OUTPUT V404 137-145 VDC 	<p>Pass/Fail</p> <p>Sat/Unsat</p> <p>Sat/Unsat</p>

Performance Steps	Standard	Grade
10. Close B402, RECTIFIER OUTPUT BKR	Closes B402, RECTIFIER OUTPUT BKR	Pass/Fail
11. Confirm BATTERY DC INPUT A1 indicates 0 amps Cue: Battery DC Input A1 indicates 0 amps	Observes BATTERY DC INPUT A1 indicates 0 amps	Sat/Unsat
12. Close B2, INVERTER OUTPUT BKR	Closes B2, INVERTER OUTPUT BKR	Pass/Fail
13. Close B201, STATIC SW INPUT BKR and confirm the following: <ul style="list-style-type: none"> • STATIC SWITCH OUTPUT V202 indicates 118-126 VAC • IN SYNC light (P3) energized Cue: Static Switch Output V202 indicates 122 VAC In Sync light is energized	Closes B201, STATIC SW INPUT BKR and observes the following: <ul style="list-style-type: none"> • STATIC SWITCH OUTPUT V202 indicates 118-126 VAC • IN SYNC light (P3) energized 	Pass/Fail Sat/Unsat Sat/Unsat
14. IF the IN SYNC light (P3) is not energized, THEN contact Electrical Maintenance to adjust R5 on oscillator board X2 as needed to energize the IN SYNC light (P3)	Determines step is N/A	Sat/Unsat
15. Once the IN SYNC light is energized, confirm the following occurs within approximately 30 seconds: <ul style="list-style-type: none"> • INVERTER TO LOAD light (P201) energized • BYPASS AC TO LOAD light (P202) extinguished Cue: INVERTER TO LOAD light is on BYPASS AC TO LOAD light is off	Once the IN SYNC light is energized, observes the following occurs within approximately 30 seconds: <ul style="list-style-type: none"> • INVERTER TO LOAD light (P201) energized • BYPASS AC TO LOAD light (P202) extinguished 	Sat/Unsat
16. Depress ALARM RESET (S2) to clear all alarm lights on UPS Cue: All alarms are clear	Depress ALARM RESET (S2) to clear all alarm lights on UPS	Sat/Unsat

Performance Steps	Standard	Grade
17. Close ACOSW, AC OUTPUT DISC SW and confirm UPS output voltage by:	Closes ACOSW, AC OUTPUT DISC SW and observes UPS output voltage by:	Pass/Fail
<ul style="list-style-type: none"> Place the SYNCHROSCOPE CONTROL switch (S701) in the ON position Confirm 118-126 VAC on UPS A VOLTS TO SYNCHROSCOPE V701 or UPS B VOLTS TO SYNCHROSCOPE V702 , as appropriate 	<ul style="list-style-type: none"> Places the SYNCHROSCOPE CONTROL switch (S701) in the ON position Observes 118-126 VAC on UPS A VOLTS TO SYNCHROSCOPE V701 or UPS B VOLTS TO SYNCHROSCOPE V702 , as appropriate 	Sat/Unsat Sat/Unsat
<u>Cue:</u> Volts indicate 120 VAC		
<ul style="list-style-type: none"> Place SYNCHROSCOPE CONTROL switch (S701) in OFF 	<ul style="list-style-type: none"> Places SYNCHROSCOPE CONTROL switch (S701) in OFF 	Sat/Unsat
18. Eight hour warm up time is utilized when energizing shutdown UPS after N1-EPM-UPS-003	Notes 8 hour warmup time	Sat/Unsat
<u>Cue:</u> 8 hours is complete		
19. Re-confirms UPS output 117-125 VAC by the following steps:		
<ul style="list-style-type: none"> Place the SYNCHROSCOPE CONTROL switch (S701) in the ON position Confirm 118-126 VAC on UPS A VOLTS TO SYNCHROSCOPE V701 or UPS B VOLTS TO SYNCHROSCOPE V702 , as appropriate 	<ul style="list-style-type: none"> Places the SYNCHROSCOPE CONTROL switch (S701) in the ON position Observes 118-126 VAC on UPS A VOLTS TO SYNCHROSCOPE V701 or UPS B VOLTS TO SYNCHROSCOPE V702 , as appropriate 	Sat/Unsat Sat/Unsat
<u>Cue:</u> Volts indicate 120 VAC		
<ul style="list-style-type: none"> Place SYNCHROSCOPE CONTROL switch (S701) in OFF 	<ul style="list-style-type: none"> Places SYNCHROSCOPE CONTROL switch (S701) in OFF 	Sat/Unsat

Performance Steps	Standard	Grade
Note: Continues at procedure step F.2		
20. Notify Control Room that RPS Bus 11 will be transferred from UPS 162B to UPS 162A	Proper communications used (GAP-OPS-01)	Sat/Unsat
Role Play: Acknowledge report		
21. Confirm UPS 162A in Standby by observing the following:	Confirms UPS 162A in Standby by observing the following:	Sat/Unsat
<ul style="list-style-type: none"> RECTIFIER OUTPUT A404 approximately 40 amps BATTERY DC INPUT A1 0 amps INVERTER OUTPUT V2 greater than OR equal to 120 VAC STATIC SWITCH OUTPUT V202 greater than OR equal to 120 VAC 	<ul style="list-style-type: none"> RECTIFIER OUTPUT A404 approximately 40 amps BATTERY DC INPUT A1 0 amps INVERTER OUTPUT V2 greater than OR equal to 120 VAC STATIC SWITCH OUTPUT V202 greater than OR equal to 120 VAC 	
Cue: RECTIFIER OUTPUT A404 is 40 amps BATTERY DC INPUT A1 is 0 amps INVERTER OUTPUT V2 is 120 VAC STATIC SWITCH OUTPUT V202 is 120 VAC		
22. Place SYNCHROSCOPE CONTROL (S701) in ON position AND confirm the following:	Places SYNCHROSCOPE CONTROL (S701) in ON position AND observes the following:	Sat/Unsat
<ul style="list-style-type: none"> UPS A VOLTS TO SYNCHROSCOPE V701 approximately 120 VAC UPS B VOLTS TO SYNCHROSCOPE V702 approximately 120 VAC 	<ul style="list-style-type: none"> UPS A VOLTS TO SYNCHROSCOPE V701 approximately 120 VAC UPS B VOLTS TO SYNCHROSCOPE V702 approximately 120 VAC 	
Cue: UPS A VOLTS TO SYNCHROSCOPE V701 is 120 VAC UPS B VOLTS TO SYNCHROSCOPE V702 is 120 VAC		
23. IF synchroscope is NOT within 10 degrees of the 12 o'clock position, THEN contact Electrical Maintenance to perform adjustment	Checks synchroscope position, determines step N/A	Sat/Unsat
Cue: Synchroscope is at 12 o'clock		

Performance Steps	Standard	Grade
24. WHEN needle of synchroscope is within 10 degrees of 12 o'clock position, place MANUAL TRANSFER SWITCH (S702) to the UPS A SUPPLYING LOAD position	WHEN needle of synchroscope is within 10 degrees of 12 o'clock position, places MANUAL TRANSFER SWITCH (S702) to the UPS A SUPPLYING LOAD position	Pass/Fail
25. Confirm load transfer by observing the following: <ul style="list-style-type: none"> • UPS B SUPPLYING LOAD light OFF and/or UPS 162B STATIC SWITCH OUTPUT A202 0 amps • UPS A SUPPLYING LOAD light ON and/or UPS 162A STATIC SWITCH OUTPUT A202 approximately 80-90 amps <p>Cue: UPS B Supplying load light is OFF Switch Output is 0 amps UPS A Supplying Load light is ON Switch Output is 85 amps</p>	Confirms load transfer by observing the following: <ul style="list-style-type: none"> • UPS B SUPPLYING LOAD light OFF and/or UPS 162B STATIC SWITCH OUTPUT A202 0 amps • UPS A SUPPLYING LOAD light ON and/or UPS 162A STATIC SWITCH OUTPUT A202 approximately 80-90 amps 	Sat/Unsat
26. Verify NO unanticipated annunciators OR computer points present due to UPS 162A supply power	Verifies NO unanticipated annunciators OR computer points present due to UPS 162A supply power	Sat/Unsat
<p>Cue: No unanticipated annunciators or computer points are present</p>		
27. Place SYNCHROSCOPE CONTROL (S701) in OFF position	Places SYNCHROSCOPE CONTROL (S701) in OFF position	Sat/Unsat
28. Place "STANDBY UPS" sign on 162B Power Supply	Places "STANDBY UPS" sign on 162B Power Supply	Sat/Unsat
29. Notify Control Room transfer complete	Proper communications used (GAP-OPS-01)	Sat/Unsat
<p>Role Play: Acknowledge report</p>		

Terminating Cue: UPS 162A is powering RPS 11

RECORD STOP TIME _____

Initial Conditions:

1. UPS 162B is supplying RPS Bus 11
2. Control Switch and Electrical Lineups are complete per N1-OP-40 Attachments 1 and 2
3. The Electrical Safety requirements for the upcoming job have been determined to be as follows:
 - Leather gloves
 - Safety glasses or goggles
 - 100% cotton long sleeve shirt and pants, OR 100% cotton short sleeve shirt and pants under flame-resistant lab coat

Initiating Cues:

“(Operator’s name), place UPS 162A in standby in accordance with N1-OP-40, section E.1, and then transfer RPS Bus 11 supply from UPS 162B to UPS 162A in accordance with N1-OP-40, section F.2.”

E. STARTUP

Initials

NOTES:

1. This section is used to place any one of the four UPS units in Standby from a powered down condition WHEN one UPS in a channel is supplying power to RPS Bus.
2. Section E.3.0 is to be used to place any one of four UPS units in Standby when BOTH UPS supplies for a channel are in a powered down condition.
3. Eight hours warm up time is utilized when energizing shutdown UPS following the ten year PM, N1-EPM-UPS-003.
4. The SM may waive the warm up time provided UPS output voltage has been verified to be 120 (+/- 2) VAC with a digital volt meter (DVM).

1.0 Placing UPS in Standby from Shutdown Condition

1.1 Verify Control Switch Lineup performed per Attachment 1

1.2 Verify Electrical Lineup performed per Attachment 2

1.3 Verify open the following breakers, at UPS to be started:

- B401, RECTIFIER INPUT BKR
- B402, RECTIFIER OUTPUT BKR
- B1, INVERTER INPUT BKR
- B2, INVERTER OUTPUT BKR
- B201, STATIC SW INPUT BKR

1.4 Perform the following at UPS control cabinets:

1.4.1 Close ACISW, AC INPUT DISC SW

1.4.2 Close BPSW, BYPASS DISC SW

1.4.3 Close DCISW, DC INPUT DISC SW

E. STARTUP (Cont)

Initials

1.5 Confirm Bypass Transformer PRIMARY VOLTAGE V801 indicates approximately 600 VAC

1.6 Confirm BYPASS AC INPUT V201 indicates 118-126 VAC

NOTE: The following steps should be reviewed to prevent tripping B1 due to low precharge voltage. B1 should be closed immediately after the precharge light (P7) becomes energized.

1.7 Close B1, INVERTER INPUT BKR as follows:

1.7.1 Depress PRE-CHARGE PUSHBUTTON, UNTIL PRE-CHARGE light (P7) becomes energized

1.7.2 WHEN PRE-CHARGE light is energized, close B1 AND confirm the following:

- BATTERY DC INPUT V1 133-135 VDC
- INVERTER OUTPUT V2 118-126 VAC
- INVERTER FREQUENCY E1 59.5-60.5 Hz

1.8 Close B401, RECTIFIER INPUT BKR and confirm the following:

- RECTIFIER INPUT V401, V402, V403 approximately 600 VAC
- RECTIFIER OUTPUT V404 137-145 VDC

1.9 Close B402, RECTIFIER OUTPUT BKR

1.10 Confirm BATTERY DC INPUT A1 indicates 0 amps

1.11 Close B2, INVERTER OUTPUT BKR

1.12 Close B201, STATIC SW INPUT BKR and confirm the following:

- STATIC SWITCH OUTPUT V202 indicates 118-126 VAC
- IN SYNC light (P3) energized

NOTE: Potentiometer R5 on oscillator board X2 located inside Bay #2 of the UPS unit may require adjustment to energize the IN SYNC light (P3).

- 1.13 IF the IN SYNC light (P3) is not energized,
THEN contact Electrical Maintenance to adjust R5 on oscillator board X2
as needed to energize the IN SYNC light (P3)

N/A, The IN SYNC light (P3) IS energized () _____

- 1.14 Once the IN SYNC light is energized, confirm the following occurs within
approximately 30 seconds:

- INVERTER TO LOAD light (P201) energized _____
- BYPASS AC TO LOAD light (P202) extinguished _____

- 1.15 Depress ALARM RESET (S2) to clear all alarm lights on UPS _____

- 1.16 Close ACOSW, AC OUTPUT DISC SW and confirm UPS output voltage by: _____

1.16.1 Place the SYNCHROSCOPE CONTROL switch (S701) in the ON
position _____

1.16.2 Confirm 118-126 VAC on UPS A VOLTS TO SYNCHROSCOPE
V701 or UPS B VOLTS TO SYNCHROSCOPE V702, as
appropriate _____

1.16.3 Place SYNCHROSCOPE CONTROL switch (S701) in OFF _____

- NOTES:
1. Eight hours warm up time is utilized when energizing
shutdown UPS after N1-CPM-UPS-003.
 2. The SM may waive the warm up time provided UPS output
voltage has been verified to be 120 (+/- 2) VAC with a digital
volt meter (DVM).
 3. Deleted.

- 1.17 Prior to restoring UPS to service, confirm UPS output 118-124 VAC by
performing Steps 1.16.1 through 1.16.3 _____

30/11/12
11/11/12
2/10/12

F. NORMAL OPERATION (Cont)

Initials

1.6 Confirm load transfer by observing the following:

- UPS A SUPPLYING LOAD light OFF and/or UPS 162A STATIC SWITCH OUTPUT A202 0 amps _____
- UPS B SUPPLYING LOAD light ON and/or UPS 162B STATIC SWITCH OUTPUT A202 approximately 80-90 amps _____

1.7 Verify NO unanticipated annunciators OR computer points present due to UPS 162B supply power _____

1.8 Place SYNCHROSCOPE CONTROL (S701) in OFF position _____

1.9 Place "STANDBY UPS" sign on 162A Power Supply _____

1.10 Notify Control Room transfer complete _____

2.0 Transfer of Loads from UPS 162B to UPS 162A

2.1 Notify Control Room that RPS Bus 11 will be transferred from UPS 162B to UPS 162A _____

2.2 Confirm UPS 162A in Standby by observing the following:

- RECTIFIER OUTPUT A404 approximately 40 amps _____
- BATTERY DC INPUT A1 0 amps _____
- INVERTER OUTPUT V2 greater than OR equal to 120 VAC _____
- STATIC SWITCH OUTPUT V202 greater than OR equal to 120 VAC _____

2.3 Place SYNCHROSCOPE CONTROL (S701) in ON position AND confirm the following:

- UPS A VOLTS TO SYNCHROSCOPE V701 approximately 120 VAC _____
- UPS B VOLTS TO SYNCHROSCOPE V702 approximately 120 VAC _____

F. NORMAL OPERATION (Cont)

Initials

- 2.4 IF synchroscope is NOT within 10 degrees of the 12 o'clock position,
THEN contact Electrical Maintenance to perform adjustment

N/A, Synchroscope IS within 10 degrees of the 12 o'clock position () _____

NOTE: The MANUAL TRANSFER SWITCH (S702) is a strong, spring loaded make before break contactor. Switch rotation should be firm, quick and continuous in the direction of the incoming UPS, to a point beyond horizontal.

- 2.5 WHEN needle of synchroscope is within 10 degrees of 12 o'clock position,
place MANUAL TRANSFER SWITCH (S702) to the UPS A SUPPLYING
LOAD position _____

- 2.6 Confirm load transfer by observing the following:

- UPS B SUPPLYING LOAD light OFF **and/or** UPS 162B STATIC
SWITCH OUTPUT A202 0 amps _____
- UPS A SUPPLYING LOAD light ON **and/or** UPS 162A STATIC
SWITCH OUTPUT A202 approximately 80-90 amps _____

- 2.7 Verify NO unanticipated annunciators OR computer points present due to
UPS 162A supply power _____

- 2.8 Place SYNCHROSCOPE CONTROL (S701) in OFF position _____

- 2.9 Place "STANDBY UPS" sign on 162B Power Supply _____

- 2.10 Notify Control Room transfer complete _____